Service Manual

VLX™ LED Wash Luminaire

02.9690.0010



PHILIPS

VARI*LITE

Vari-Lite
A Philips Group Company
10911 Petal Street
Dallas, Texas 75238 USA

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Part number: **02.9690.0010 0**

VLX™ LED Wash Luminaire Service Manual

How To Obtain Warranty Service

A copy of the Vari-Lite Limited Warranty was included in the shipping package for this VARI❋LITE® product.

To obtain warranty service, please contact customer service at 1-877-VARI-LITE (1-877-827-4548), +1-214-647-7880, or entertainment.service@philips.com and request a Return Material Authorization (RMA) for warranty service. You will need to provide the model and serial number of the item being returned, a description of the problem or failure and the name of the registered user or organization. If available, you should have your sales invoice to establish the date of sale as the beginning of the warranty period.

Once you obtain the RMA, pack the unit in a secure shipping container or in its original packing box. Fill out the RMA form (obtained from the Vari-Lite web site www.vari-lite.com or through customer service) and place in shipping container along with a copy of your invoice (if available). Write the RMA number legibly on or near the shipping address label and return the unit, freight prepaid to:

Vari-Lite
10911 Petal Street
Dallas, Texas 75238 USA
Attention: Warranty Service / RMA Number

As stated in the warranty, it is required that the shipment be insured and FOB our service center.

Compliance Notice

FCC This equipment has been tested and found to comply with the limits for a Class A digital device pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference when this equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with Vari-Lite system, service, and safety guidelines, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his/her own expense.

CE

Declaration of Conformity

We declare, under our sole responsibility, that this product complies with the relevant clauses of the following standards and harmonized documents:

Safety

EN 60598-1:2000 Luminaire Safety Standard, General Requirements
EN 60598-2 17:1989/A2: 1991 Specification for Luminaires for Stage and Studio Lighting

EMC

EN 61000-6-4: 2001 Radiated and Conducted Emissions

We certify that the product conforms to the protection requirements of Low Voltage Directive 2006/95/EC and Council Directive 89/336/EEC (EMC)

Safety Notice

It is extremely important to read ALL safety information and instructions provided in this manual and any accompanying documentation before installing and operating the products described herein. Heed all cautions and warnings during installation and use of this product.

Safety symbols used throughout this manual are as follows:

CAUTION advising of potential damage to product.

WARNING advising of potential injury or death to persons.

GENERAL INFORMATION PERTAINING TO PROTECTION AGAINST ELECTRICAL SHOCK, FIRE, EXPOSURE TO EXCESSIVE UV RADIATION, AND INJURY TO PERSONS CAN BE FOUND BELOW.

WARNING:
INSTRUCTIONS FOR CONTINUED PROTECTION AGAINST FIRE

1. VARI❋LITE® luminaires have been designed for use with specific light sources. The VLX™ LED Wash Luminaire uses a special type of LED light source. Installing another type of light source will be hazardous and void the luminaire warranty.
2. Luminaires may be mounted on any type of surface as long as mounting instructions are followed. See instructions detailed in this manual.
3. Note distance requirement from combustible materials or illuminated objects for VARI❋LITE® luminaires.

WARNING:
INSTRUCTIONS FOR CONTINUED PROTECTION AGAINST ELECTRICAL SHOCK

1. VARI❋LITE® luminaires are designed for dry locations only. Exposure to rain or moisture may damage luminaire.
2. Disconnect power before servicing any VARI❋LITE® equipment.
3. Servicing to be performed by qualified personnel only.

WARNING:
INSTRUCTIONS FOR CONTINUED PROTECTION AGAINST EXCESSIVE EXPOSURE TO UV RADIATION

1. Many VARI❋LITE® luminaires use a lamp that produces UV radiation. DO NOT look directly at lamp.
2. It is hazardous to operate luminaires without lens or shield. Shields, lenses, or ultraviolet screens shall be changed if they have become visibly damaged to such an extent that their effectiveness is impaired. For example, by cracks or deep scratches.

WARNING:
INSTRUCTIONS FOR PROTECTION AGAINST INJURY TO PERSONS

1. Exterior surfaces of the luminaire will be hot during operation. Use appropriate safety equipment (gloves, eye protection, etc.) when handling and adjusting hot equipment and components.
2. Luminaires will have a hot lamp when operating. Disconnect power and allow lamp to cool before replacing.
3. Wear eye protection when relamping.
4. Appropriate safety equipment (gloves, eye protection) should be used when handling damaged lamps.
5. If lamp is touched with bare hands, clean lamp with denatured alcohol and wipe with lint-free cloth before installing or powering up the luminaire.
6. The lamp shall be changed if it has become damaged or thermally deformed.

WARNING:
RF INTERFERENCE

1. This is a Class A product. In a domestic environment this product may cause radio interference, in which case, the user may be required to take adequate measures.

Sicherheitshinweise

Es ist äußerst wichtig, ALLE Sicherheitsinformationen und -hinweise in diesem Handbuch und dem beiliegenden Informationsmaterial zu lesen, bevor Sie die hierin beschriebenen Produkte installieren bzw. bedienen. Halten Sie bei der Installation und dem Einsatz dieses Produkts alle Warnhinweise und Vorsichtsmaßnahmen ein.

Folgende Sicherheitssymbole werden in diesem Handbuch verwendet:

VORSICHT - weist auf möglichen Produktschaden hin.

WARNUNG - weist auf mögliche Körperverletzung und Lebensbedrohung hin.

NACHSTEHEND FINDEN SIE ALLGEMEINE HINWEISE ÜBER SICHERHEITSVORKEHRUNGEN GEGEN ELEKTROSCHOCK, FEUER, ÜBERHÖHTE UV-STRAHLUNG UND KÖRPERVERLETZUNGEN.

WARNUNG:
HINWEISE ZUM FEUERSCHUTZ

1. VARI❋LITE® Beleuchtungen sind für Gebrauch mit spezifischen Lichtquellen bestimmt worden. Die VLX Beleuchtung benutzt eine spezielle Art LED-Lichtquelle. Eine andere Art Lichtquelle anzubringen ist gefährlich und hebt die Beleuchtunggarantie auf.
2. Scheinwerfer können auf jeder beliebigen Oberfläche montiert werden, solange Sie die Montageanweisungen befolgen. Detaillierte Hinweise finden Sie in diesem Handbuch.
3. Beachten Sie die Einhaltung des erforderlichen Sicherheitsabstandes der VARI❋LITE®-Scheinwerfer von brennbarem Material oder beleuchteten Objekten.

WARNUNG:
HINWEISE ZUM SCHUTZ GEGEN ELEKTROSCHOCK

1. VARI❋LITE®-Scheinwerfer eignen sich ausschließlich für trockene Standorte. Regen oder Feuchtigkeit können die Scheinwerfer beschädigen.
2. Unterbrechen Sie die Stromzufuhr, bevor Sie mit der Arbeit an VARI❋LITE®-Geräten beginnen.
3. Die Geräte sollten nur von qualifiziertem Personal gewartet werden.

WARNUNG:
HINWEISE ZUM SCHUTZ GEGEN ÜBERHÖHTE UV-STRAHLUNG

1. Viele VARI❋LITE®-Scheinwerfer verwenden die Lampentyp, der UV-Strahlen abgibt. SCHAUEN SIE NICHT direkt in die Lampe.
2. Es ist gefährlich, Leuchten ohne Linsen oder Blenden zu bedienen. Blenden, Linsen oder Ultraviolettschirme müssen ausgetauscht werden, sofern deren Schutzwirkung durch sichtbare Beschädigung (z. B. Sprünge oder Schrammen) eingeschränkt ist.

WARNUNG:
HINWEISE ZUM SCHUTZ GEGEN KÖRPERVERLETZUNGEN

1. Bei Betrieb sind die Außenflächen der Scheinwerfer heiß. Verwenden Sie bei der Bedienung von aufgeheizter Apparatur die jeweils geeignete Sicherheitsausrüstung (Handschuhe, Augenschutz etc.).
2. Bei Betrieb der Scheinwerfer ist die Lampe heiß. Unterbrechen Sie die Stromzufuhr und lassen Sie die Lampe abkühlen, wenn Sie diese austauschen.
3. Tragen Sie beim Austausch der Lampen einen Augenschutz.
4. Die geeignete Sicherheitsausrüstung (Handschuhe, Augenschutz) sollte beim Umgang mit beschädigten Lampen verwendet werden.
5. Wenn die Lampe mit bloßen Händen berührt wird, reinigen Sie sie mit denaturiertem Alkohol und einem flusenfreien Tuch, bevor Sie die Scheinwerfer installieren oder in Betrieb nehmen.
6. Wenn die Lampe beschädigt oder durch Hitzeeinwirkung deformiert ist, muß diese ausgetauscht werden.

WARNUNG:
HF-INTERFERENZ

1. Es handelt sich um ein Produkt der Klasse A. In einer Wohnumgebung kann das Produkt Hochfrequenzstörungen verursachen. In diesem Fall müssen eventuell geeignete Maßnahmen getroffen werden.

Notes de sécurité

Avant de procéder à l’installation des produits décrits dans ce guide et de les mettre en marche, il est extrêmement important de lire TOUS les renseignements et TOUTES les directives de sécurité contenues dans ce guide ainsi que toute documentation jointe. Tenir compte de tous les avertissements et suivre toutes les précautions pendant l’installation et l’utilisation de cet appareil.

Les symboles de sécurité utilisés dans ce guide sont les suivants :

ATTENTION Ce symbole annonce que l’appareil risque d’être endommagé.

AVERTISSEMENT Ce symbole annonce qu’il y a risque d’accident grave ou même fatal.

CETTE SECTION CONTIENT DES INFORMATIONS GÉNÉRALES POUR SE PROTÉGER CONTRE LES DÉCHARGES ÉLECTRIQUES , LES INCENDIES, L’EXPOSITION EXCESSIVE AUX RAYONS UV ET TOUT AUTRE ACCIDENT POUVANT ENTRAÎNER DES BLESSURES.

AVERTISSEMENT:
DIRECTIVES POUR SE PROTÉGER CONTRE LES INCENDIES

1. Des appareils d'éclairage de VARI❋LITE® ont été conçus pour l'usage avec des sources lumineuses spécifiques. L'appareil d'éclairage de VLX emploie un type spécial de source lumineuse de LED. L'installation d'un autre type de source lumineuse sera dangereuse et videra la garantie d'appareil d'éclairage.
2. Les luminaires peuvent être fixés sur tout type de surface tant que les directives de montage sont respectées. Voir les explications détaillées dans ce guide.
3. Vérifier la distance à respecter entre les matériaux combustibles ou les objets illuminés et les luminaires VARI❋LITE®.

AVERTISSEMENT:
DIRECTIVES POUR SE PROTÉGER CONTRE LES DÉCHARGES ÉLECTRIQUES

1. Les luminaires VARI❋LITE® sont conçus pour une utilisation au sec uniquement. Une exposition à la pluie et à l’humidité risque d’endommager le luminaire.
2. Débrancher l’appareil avant de procéder à la révision de tout matériel VARI❋LITE®.
3. Les révisions doivent être effectuées uniquement par des personnes qualifiées.

AVERTISSEMENT:
DIRECTIVES POUR SE PROTÉGER CONTRE UNE EXPOSITION EXCESSIVE AUX RAYONS UV

1. Plusieurs luminaires VARI✻LITE® utilisent une lampe qui produit des rayons UV. NE PAS fixer son regard sur la lampe.
2. L'utilisation des luminaires sans lentille ou blindage pose des risques. Tous blindages, lentilles ou écrans ultraviolet visiblement endommagés au point que leur efficacité en est affectée doivent être remplacés, par exemple s'il y a des fissures ou de profondes rayures.

AVERTISSEMENT:
DIRECTIVES POUR SE PROTÉGER CONTRE LES ACCIDENTS POUVANT ENTRAÎNER DES BLESSURES

1. Les surfaces externes du luminaire deviennent brûlantes quand l'appareil est en marche. Pour manœuvrer ou ajuster des appareils brûlants et leurs composants, se protéger suffisamment (gants, protection pour les yeux, etc.).
2. La lampe du luminaire est brûlante lorqu'il est en marche. Débrancher le courant et attendre que la lampe ait refroidi avant de la remplacer.
3. Les lampes à arc émettent des rayons ultraviolets pouvant causer de graves brûlures sur la peau et une inflammation des yeux. De plus, les lampes à arc fonctionnent sous haute tension à de très hautes températures. Si la lampe se casse, les particules de la lampe cassée peuvent causer blessures et/ou incendie en s'éparpillant.
4. Se protéger les yeux pour remplacer la lampe.
5. Utiliser des appareils de protection appropriés (gants, protection des yeux) pour manier des lampes endommagées.
6. Si la lampe a été touchée avec des mains nues, la nettoyer avec de l'alcool dénaturé et l'essuyer avec un chiffon non-pelucheux avant d'installer ou de brancher le luminaire.
7. Si la lampe a été endommagée ou a reçu une déformation thermique, elle doit être remplacée.

AVERTISSEMENT:
INTERFÉRENCE RF

1. Cet appareil est de Classe A. Dans un environnement domestique, cet appareil peut causer des interférences radio, et si c'est le cas, l'utilisateur peut avoir à prendre des mesures adéquates.

Aviso sobre Seguridad

Es muy importante leer TODA la información e instrucciones sobre seguridad que se indica en este manual así como en los documentos adjuntos antes de instalar y operar los productos descritos. Se debe prestar atención a todos los avisos y advertencias durante la instalación y uso de este producto.

Los símbolos de seguridad usados en este manual son los siguientes:

CUIDADO, indica posibles daños al producto.

ADVERTENCIA, indica posibles lesiones o muerte a las personas.

LA INFORMACIÓN GENERAL RELACIONADA A LA PROTECCIÓN CONTRAGOLPES DE CORRIENTE ELÉCTRICA, INCENDIO, EXPOSICIÓN EXCESIVA A RADIACIÓN ULTRA VIOLETA Y LESIONES A LAS PERSONAS SE PUEDE ENCONTRAR SEGUIDAMENTE:

ADVERTENCIA:
INSTRUCCIONES PARA PROTECCIÓN CONTINUA CONTRA INCENDIO

1. Los alumbrados de VARI❋LITE® se han diseñado para el uso con fuentes de luz específicas. El alumbrado de VLX utiliza un tipo especial de fuente de luz del LED. La instalación de otro tipo de fuente de luz será peligrosa y anulará la garantía del alumbrado..
2. Las luminarias se pueden instalar en cualquier tipo de superficie siempre que se sigan las instrucciones de instalación. Vea las instrucciones detalladas en este manual.
3. Tome nota de los requerimientos de distancia de materiales combustibles u objetos iluminados para las luminarias VARI❋LITE®.

ADVERTENCIA:
INSTRUCCIONES PARA PROTECCIÓN CONTINUA CONTRA CHOQUE ELÉCTRICO

1. Las luminarias VARI❋LITE® están diseñadas solamente para lugares secos. La exposición a la lluvia o humedad pueden dañar la luminaria.
2. Desconecte la energía antes de dar servicio a cualquier equipo de VARI❋LITE®.
3. El servicio debe ser realizado solamente por personal calificado.

ADVERTENCIA:
INSTRUCCIONES PARA PROTECCIÓN CONTINUA CONTRA LA EXPOSICIÓN EXCESIVA DE RADIACIÓN ULTRA VIOLETA

1. Muchas luminarias VARI❋LITE® usan un tipo de lámpara que produce radiación UV. NO mire directamente a la lámpara.
2. Es peligroso operar luminarias sin lentes o protectores. Debe cambiar los protectores, lentes o pantallas ultravioletas si se aprecia que han sido dañadas, y que su efectividad pudiera estar deteriorada. Por ejemplo, si tuvieran rajaduras o raspaduras profundas.

ADVERTENCIA:
INSTRUCCIONES PARA PROTECCIÓN CONTRA LESIONES DE PERSONAS

1. Las superficies exteriores de las luminarias están calientes durante su operación. Use un equipo de seguridad apropiado (guantes, protección para los ojos, etc.) cuando haga ajustes en el equipo y componentes que están calientes.
2. Cuando las luminarias están en operación la lámpara estará muy caliente. Desconecte la energía y deje que la lámpara se enfríe antes de reemplazarla.
3. Use un equipo de seguridad apropiado (guantes, protección para los ojos, etc.) cuando trabaje con lámparas dañadas.
4. Si toca la lámpara con las manos, limpie la lámpara con alcohol desnaturalizado y con tela sin pelusas antes de instalar o volver a conectar la luminaria.
5. Cambie la lámpara si está dañada o deformada termicamente.

ADVERTENCIA:
INTERFERENCIA RF

1. Este es un producto de Clase A. En el ambiente de la casa este producto puede ocasionar radiointerferencia, en cuyo caso, el usuario debe tomar las medidas adecuadas.

安全性に関する注意事項

ここに記載されている製品を取り扱う場合は、まず本マニュアルおよび付属のマニュアルの安全性に関する情報と説明をすべてお読みください。また、実際に本製品を取り付けたり使用する際には、すべての注意事項および警告に留意して作業してください。

本マニュアルでは、以下の安全マークを使用しています。

注意：製品に損傷を与える危険性があります。

警告：人身事故につながる危険性があります。

感電、火災、UV 放射に対する過度の露出、および人身事故を防ぐための一般的な情報については、以下の説明をお読みください。

警告：
火災の発生を防ぐためのヒント

1. VARI∗LITE® 照明器具は、ランプを使用するように設計されています。ランプを交換する際は、ランプの種類 (など) を確認するようにしてください。他の種類のランプを取り付けると危険です。
2. 照明器具は、本マニュアルの指示に従って操作するかぎり、どのようなタイプの表面にでも取り付けることができます。詳細については、本マニュアルを参照してください。
3. ヒューズを交換する場合は、同じヒューズ（同じ種類、同じクラス）を使用してください。
4. VARI∗LITE® 照明器具は、可燃性物質または他の光源から必要な距離だけ離して配置してください。

警告：
感電を防ぐためのヒント

1. VARI∗LITE® 照明器具は、乾燥した環境で使用するように設計されています。雨で濡れる場所や湿気の多い場所に取り付けると、照明器具が傷むことがあります。
2. VARI∗LITE® 照明器具を修理点検する場合は、必ず先に電源を切ってください。
3. 照明器具の修理点検は、資格を持つ技師のみが行うようにしてください。

警告：
過度の **UV** 放射にさらされないためのヒント

1. VARI*LITE® 照明器具の多くは、UV 放射を生ずる HID タイプのランプを使用しています。ランプを直視することは避けてください。
2. レンズまたはシールドを使わずに照明器具を点灯すると危険です。レンズ、シールド、紫外線画面は、ひび割れや深い引っかき傷などにより、その効力が損なわれるようになったら取り替えるようにします。

警告：
人身事故を防ぐためのヒント

1. 照明器具が点灯しているときは、その外側が熱くなります。熱くなった器具やコンポーネントを取り扱う際には、適切な防具（手袋や保護用眼鏡）を使用してください。
2. 照明器具が点灯しているときは、そのランプが熱くなります。ランプを交換する場合は、照明器具の電源を切り、ランプの温度が下がるまで待ってください。ランプの裏ぶたをあけると、遮断スイッチが働いて、ランプの電源が切れる場合があります。
3. アーク灯は紫外線を放射します。この紫外線によって、ひどい火傷を負ったり、目の炎症を起こすことがあります。さらに、アーク灯は、高圧高温の状態で光を発します。そのため、万一アーク灯が破損すると、飛び散った破片で人身事故や火災が発生する危険性があります。
4. 再点灯するときには、保護用眼鏡を着用してください。
5. 損傷したランプを取り扱う場合は、適切な防具（手袋や保護用眼鏡）を着用してください。
6. 手袋を着用せずに直接手でランプを触った場合は、変性アルコールを使ってランプをきれいにし、糸くずの出ない布で拭いてから照明器具を取り付け、電源を入れるようにします。
7. 傷がついたランプや熱によって変形したランプは取り替えてください。

警告：
RF 干渉

1. 本製品は Class A に分類されます。本製品は、家庭環境において無線干渉を起こす可能性があります。その場合、使用者は適切な処置を取らなければならないことがあります。

アーク灯の特性

1. 停電後または大きな電圧ディップ後にアーク灯を再点灯する場合は、しばらく時間をおくようにしてください。Lamp Power-Up State）シ
ステム設定によっては、温度が下がったときに自動的に再点灯される場合もあります。
2. アーク灯は点光源です。

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Chapter 3. Illustrated Parts Breakdown

Note: Cables are only available as complete assemblies. The information contained in this section is for reference only.

Cable Assemblies

Appendix A. Technical Bulletins and Notices

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Introduction

About This Manual

This manual provides descriptions, repair procedures, and illustrated parts breakdowns for all configurations of the VLX™ LED Wash Luminaire. The manual is intended for use by Vari-Lite personnel and Authorized VARI❋LITE® Service Centers and technicians.

WARNING: It is important to read ALL accompanying safety and installation instructions to avoid damage to the product and potential injury to yourself or others.

This manual covers the following models:

Model	Part Number	Source
VLX Wash Luminaire	20.9690.0001	Seven x 120W RGBW LEDs
VLX Wash Luminaire, White	20.9690.0001.02	Seven x 120W RGBW LEDs

Note: Performing maintenance procedures may void the product warranty. Refer to the Vari-Lite Limited Warranty card included in the product shipping package for more information.

Additional Documentation

For complete installation and operation instructions, refer to the VLX™ Series Luminaire User's Manual. This manual is available in electronic (PDF) format on the Vari-Lite web site at www.vari-lite.com in the Support (Product Downloads) section.

- VLX™ Series Luminaire User's Manual (02.9690.0001)
- For more information regarding DMX512 systems, refer to the DMX512/1990 & AMX 192 Standards publication available from United States Institute for Theatre Technology, Inc. (USITT).

  USITT
  6443 Ridings Road
  Syracuse, NY 13206-1111 USA
  1-800-93USITT
  www.usitt.org

Customer Service

Our Goal

At Vari-Lite, we are committed to providing you the highest quality in customer service. Our comprehensive resources are available to help your business succeed and ensure you get the full benefit of being a Vari-Lite customer. Whether your needs are telephone troubleshooting assistance, product training or technical service, our full-time staff of experienced professionals are on-hand to provide support.

How to Reach Us

For assistance in your area, call the dealer from which your product(s) was purchased.

or

Contact an Authorized Service Center.

or

Contact the Vari-Lite Customer Service Department, 9am - 6pm CST Monday through Friday, at the following:

phone: 1-877-VARI-LITE (1-877-827-4548)

e-mail: entertainment.service@philips.com

Additional Resources

For additional resources and documentation, please visit our website at www.vari-lite.com and follow the Support link.

Technical Bulletins and Notices

Technical bulletins concerning the latest changes to VARI❋LITE® equipment are issued from the Dallas, Texas USA office. They are documentation supplements that contain procedures for equipment upgrades, retrofits, and repairs not found in the existing manuals. Operator technical bulletins are also issued to document changes in control software. Technical bulletins are integrated into the appropriate equipment manuals as those manuals are revised. Bulletins are categorized by assembly or subassembly, and identified by a number such as SVX-001 (VLX™ Series Luminaires Technical Bulletin number 1) or LSW-001 (Software release technical bulletin).

Technical notices are also issued from the Dallas, Texas USA office. They are non-procedural documents that contain information regarding product support issues, current equipment problems, software bugs, and documentation corrections. All technical notices begin with the prefix TN and are numbered sequentially, such as TN-138 (Tech Notice number 138).

A list of current technical bulletins and notices associated with VLX™ Series Luminaires is found in “VLX Wash Technical Bulletins and Notices” on page 149.

CHAPTER 1.

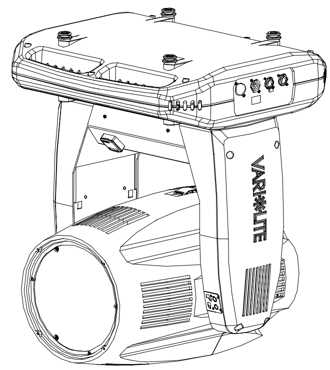
Description

This chapter contains descriptions of luminaire features and components.

- **Features**
- **Components**
- **Principles of Operation**

Features

Standard Features



All VLX™ series luminaires have the following standard features:

- Seven, 120 Watt custom RGBW Chipsets (each chipset contains high density red, green, blue, and white LED emitters).
- Patented optical zoom system with continuously variable field angle from approximately 22° to 60°. Zoom module is easily removable for fixed field angle of 21°.
- Smooth, high resolution intensity and dimming control of red, green, blue, and white LEDs.
- Color temperature (white) variable between 3000 and 9000K.
- LED manufacturer rated life in excess of 10,000 hours (at full RGBW).
- Output exceeds 14,000 lumens (white light).
- High speed strobe operation with multiple strobe effects.
- Smooth, time-controlled continuous motion by way of a pair of three-phase stepper motor systems. Pan range is 540°/ Tilt range is 270° both with a 0.3° resolution.
- Control by DMX512 protocol.
- Fan cooled.
- Operational Temperature of -20° to 122°F (-29° to 50°C).
- Power Requirements: Standard AC power distribution from 100-240VAC, 50/60Hz. The unit requires up to 10A depending on the AC supply voltage.

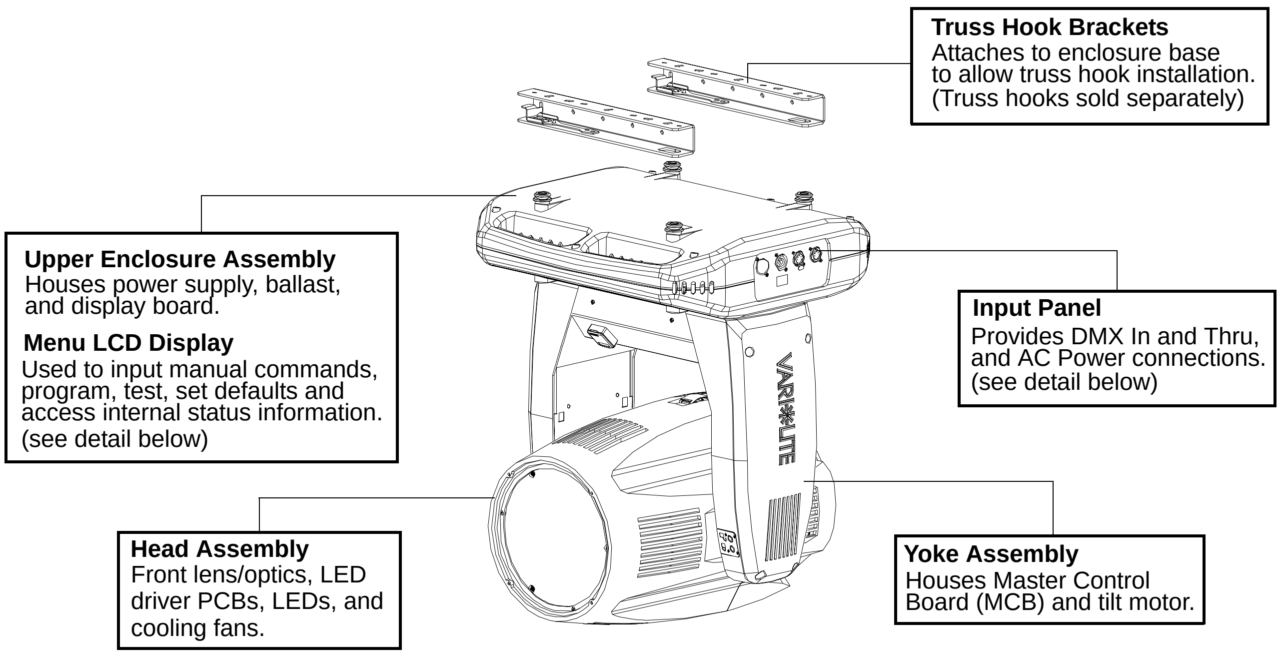
Technical Specifications

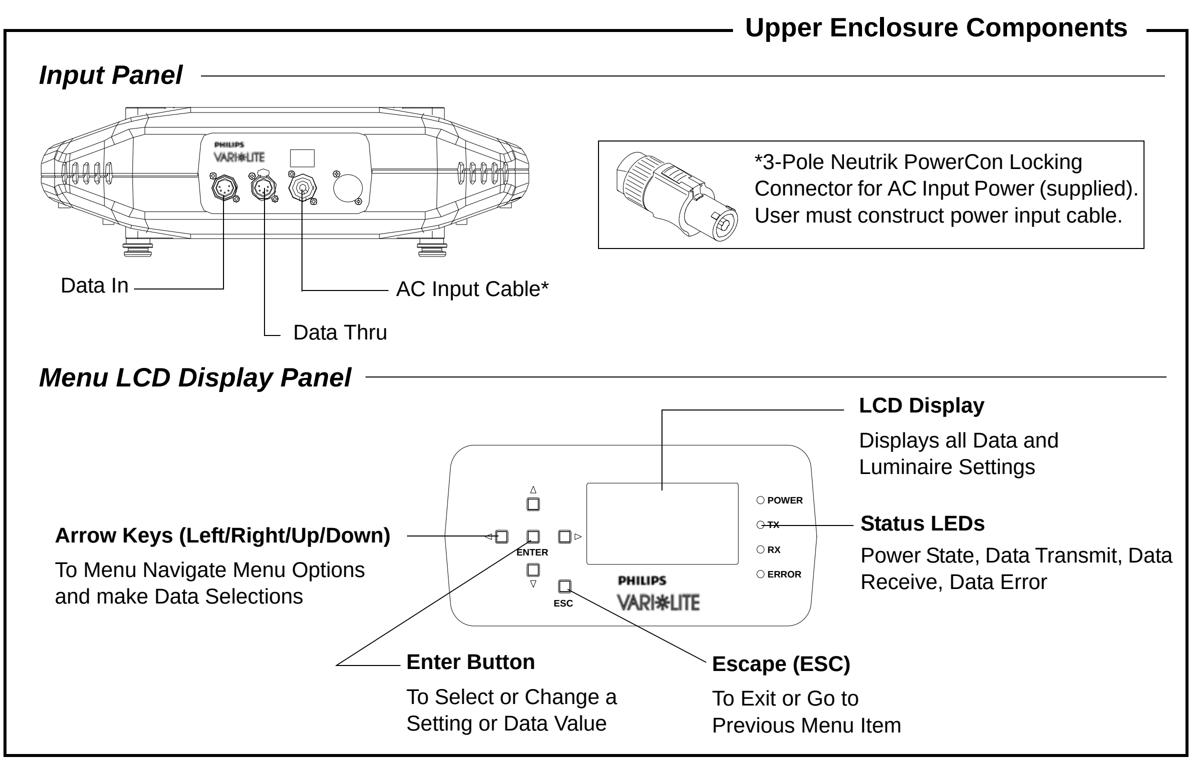
For detailed technical specifications, refer to VLX™ LED Wash Luminaire User’s Manual (02.9690.0001).

Components

VLX Wash External Components

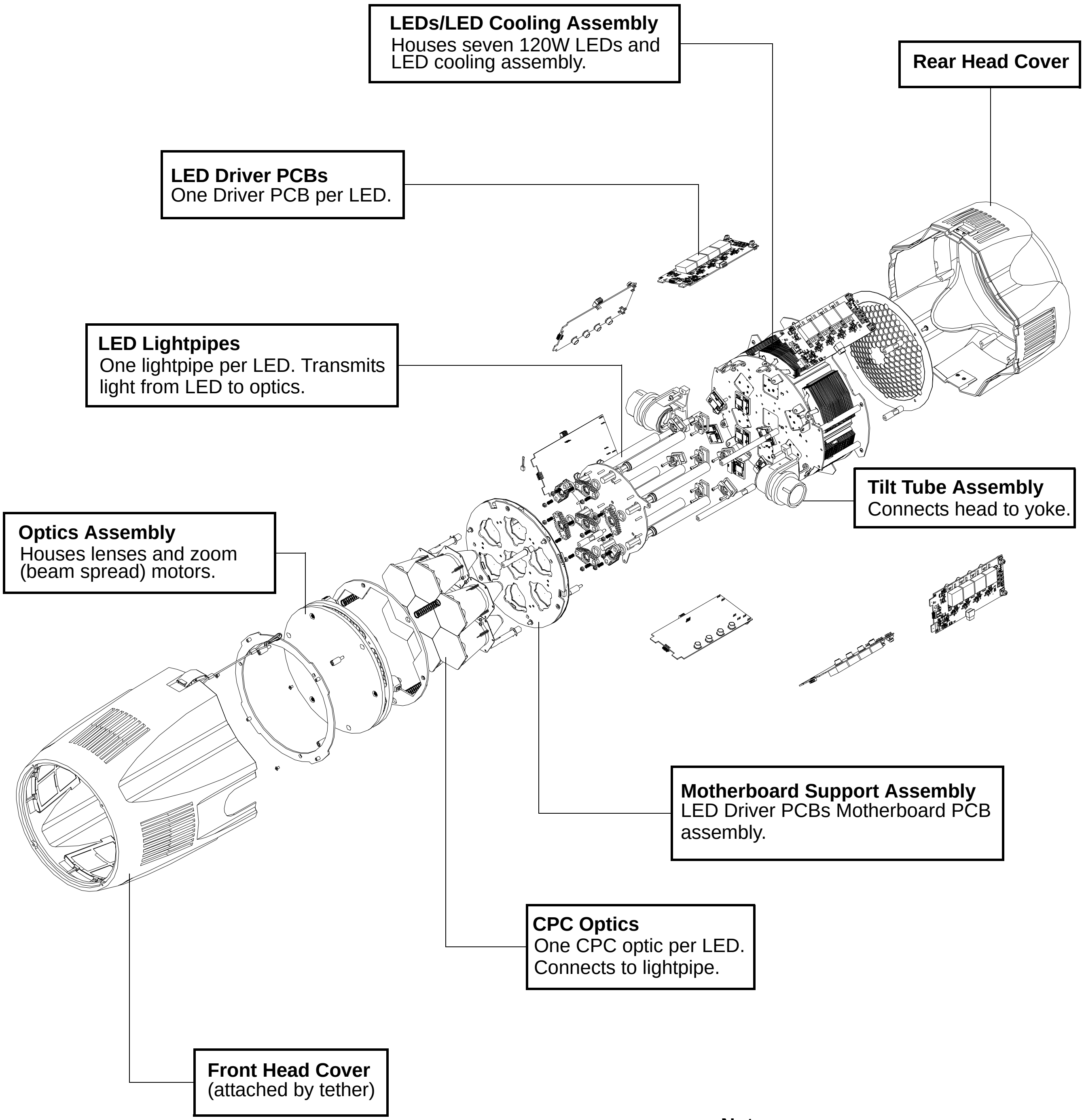
The following illustration shows the external luminaire components and controls.





VLX Wash Luminaire Head Components

The following illustration shows the major sub-assemblies which are located in the luminaire head assembly.

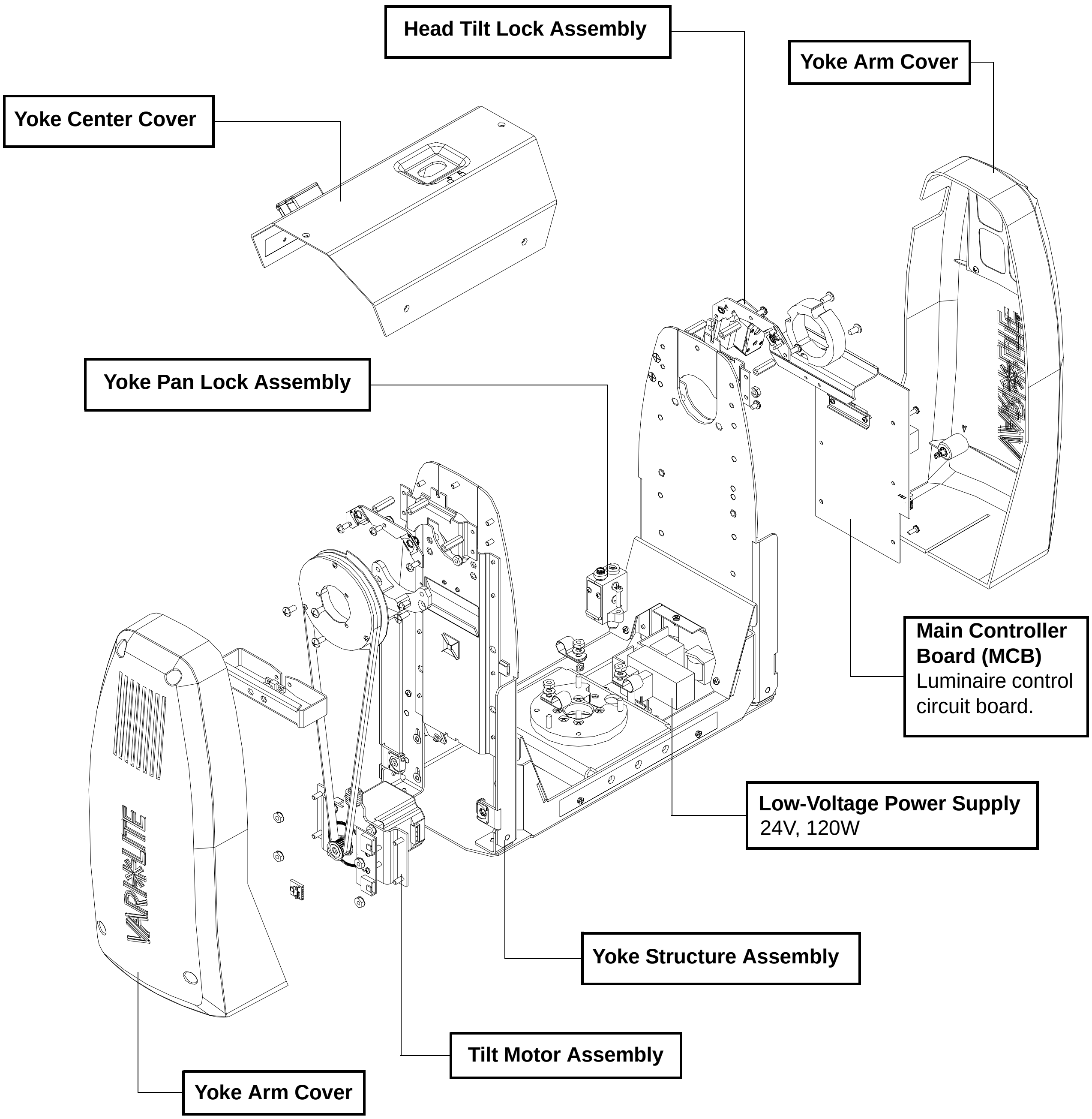


Note:

Yoke and Enclosure assemblies not shown for clarity.

VLX Wash Luminaire Yoke Components

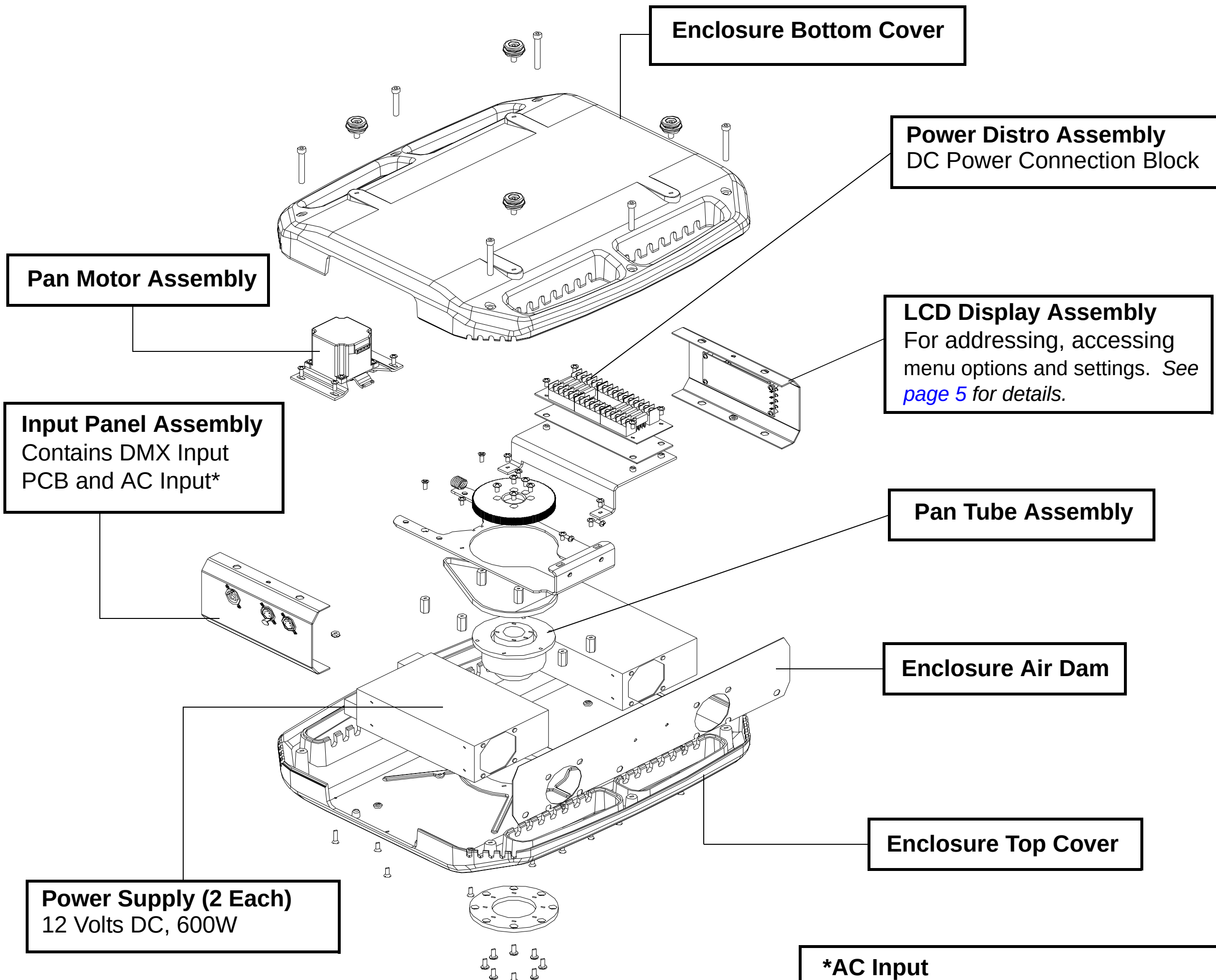
The following illustration shows the major sub-assemblies which are located in the luminaire yoke assembly.



Note:
Head and Enclosure assemblies not shown for clarity.

VLX Wash Enclosure Components

The following illustration shows the major sub-assemblies which are located in the luminaire enclosure assembly.



***AC Input**
Requires standard AC power distribution from 100-240 VAC, 50/60 Hz., up to 10A depending on the AC supply voltage.

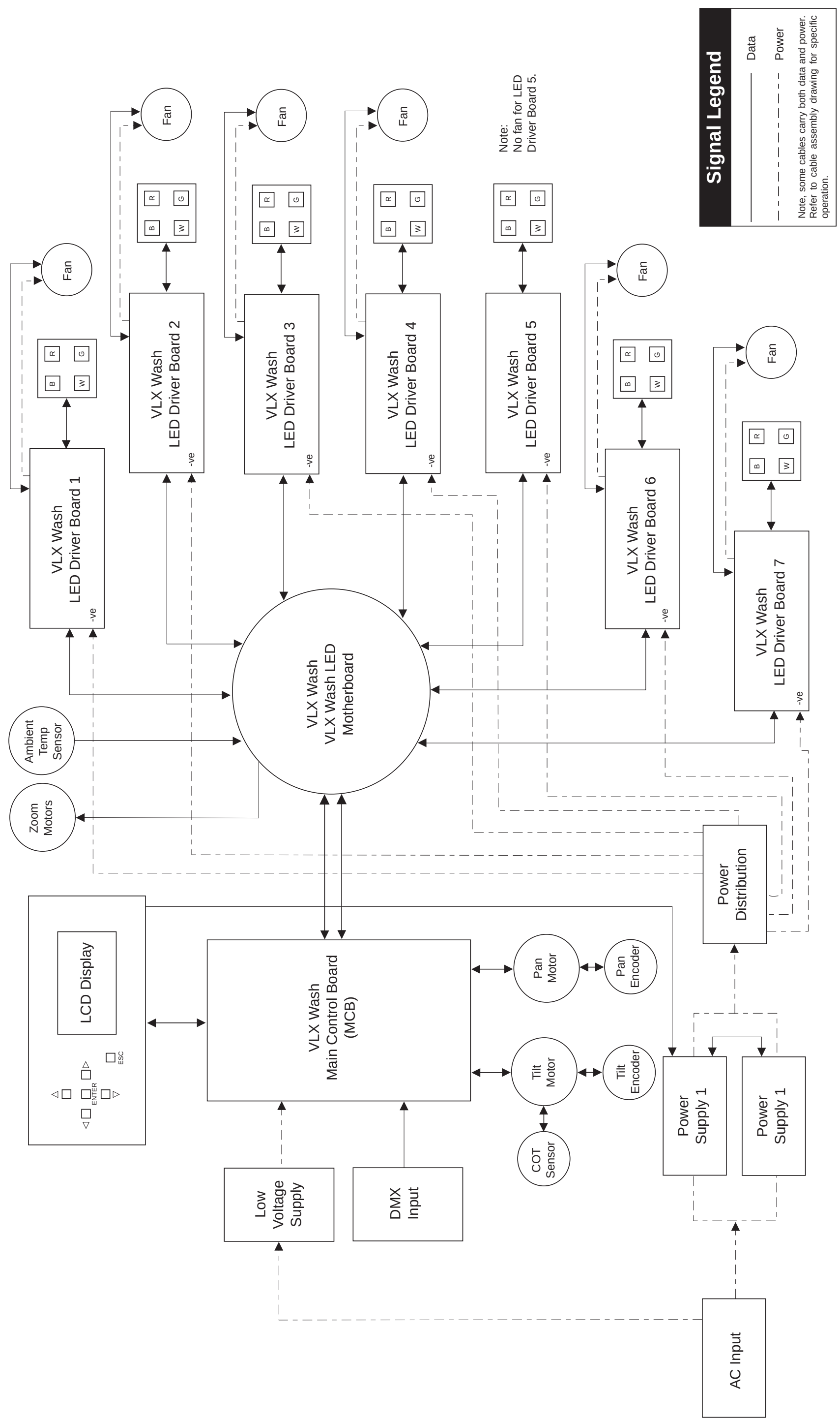
Wire**	Connection
Green/Yellow	AC Ground
Blue	AC Neutral
Brown	AC Line

** International (Harmonized) Standard

Note:
Head and Yoke assemblies not shown for clarity.

Principles of Operation

VLX Wash Luminaire Functional Block Diagram



Notes

CHAPTER 2.

Maintenance

This chapter contains test, service, and standard maintenance procedures.

- **Testing**
- **Troubleshooting**
- **Special Care and Handling**
- **Maintenance Procedures**

WARNING: All maintenance procedures are to be performed with power completely removed from the luminaire. Never remove covers while unit is in operation.

WARNING: Maintenance, repairs, and adjustments should only be performed by a qualified, factory-trained service technician at an Authorized VARI❋LITE® Service Center.

Testing

Luminaire Self-Tests

The luminaire is capable of running self tests by using the TEST menu functions. For detailed instructions regarding the luminaire's self-test function, refer to the VLX™ LED Wash Luminaire User's Manual (02.9690.0001).

Calibration Sequence

The following is an outline of the luminaire's standard calibration sequence:

Phase 1
- Tilt
- LEDs Off
- LED Upload

Phase 2
- Zoom

Phase 3
- Pan

Sensor Testing

Most mechanisms within the VLX™ luminaire are equipped with either optical or magnetic sensors. The VLX™ master control board (MCB) has labeled test points for reading DC voltages at each sensor. Testing is best performed with a digital voltmeter for sensor readings or an Oscilloscope for pan/tilt encoder readings. The values can be used to determine whether a circuit is opening correctly or needs further troubleshooting.

Guidelines:

- The values will change depending on whether the sensor reading is Open or Closed.
- The values will be different depending on the type of sensor: optical or magnetic.
- As a general rule, if a change occurs from 5v to 0v or visa versa, then it is working.
- An Open reading occurs when the sensor is not aligned - tab not at sensor (typically a non-zero DMX value).
- A Closed reading occurs when the sensor is aligned -tab in or at sensor (typically a zero DMX value).
- Optical sensors read high when the sensor is Closed.
- Magnetic sensors read Low when the sensor is Closed.
- High value - 5 volts (typically 4.9 volts).
- Low value - 0 volts, or up to approximately 0.2 volts.

Notes regarding specific mechanisms:

- Tilt sensor reads high when the tab is in the sensor. The mechanism calibrates to the edge and its tab covers 50% of travel. Pan and tilt encoders are best read with a scope to read the encoder ticks.

Troubleshooting

Error Messages

If a problem occurs during luminaire calibration, at the end of the calibration sequence the Menu Display will cycle through any applicable error message(s), one at a time until the end of the list is reached. To review the error messages again, it will be necessary to access them using the Status function. (Refer to "Troubleshooting Guide" on page 15 for a list of possible causes and remedies associated with the error messages.)

To access error messages:

Step 1. Press [ESC] to access the main menu screen.

Step 2. Press [Up] / [Down] arrows until Fixture appears. Press [Enter].

Step 3. Press [Up]/ [Down] arrows to access Status. Press [Enter]. (Display will now scroll through any error messages or display OK if no errors.)

Table 2-1: Error Messages

Display	Message...
OK	No Errors Found
Tilt Sensor	Tilt sensor not found.

WARNING: As with any repairs or maintenance to VARI❋LITE® luminaires, service should only be performed by a trained and qualified service technician or at an Authorized VARI❋LITE® Service Center.

Troubleshooting Guide

If a problem is suspected, try recalibrating the luminaire to prompt an error message. Refer to "Error Messages" on page 14 for more information. The chart below provides possible causes and remedies for each message.

Table 2-2: Troubleshooting Guide

Message	Symptom	Description	Possible Cause and Remedy
n/a	No power	Luminaire does not power up	Circuit not energized... - verify circuit breaker is turned on. Not plugged in... - ensure A/C cable is connected to power source. Power cable wired incorrectly... - verify power cable and connector are wired correctly.
n/a	DMX Data Input	Self tests will not run or software download does not work.	Detecting DMX data... - disconnect DMX input cable.
n/a	DMX Failure	No response to DMX data.	MCB connector disconnected... - check MCB DATA IN connection. DMX data cable not wired correctly or has a broken conductor... - check DMX data cable for proper wiring.
n/a	DMX Termination	Erratic control of luminaire.	No DMX termination or termination not correct... - check for DMX terminator.
n/a	Single LED not operating	One LED (out of the seven) is not producing light or responding to control.	LED Driver PCB not Powered... - Check Power to the driver board for that LED. The driver board has 2 green LEDs on it. Each LED signifies a different power supply. The outer green LED (closest to the edge of the board) signifies that the driver board is getting power from the 12V supplies in the base (through the blue wire). The inner green LED signifies that it is getting +5V power from the round motherboard (through the header/pin connector) LED Driver PCB not Properly Connected... - Check communication to the driver board for that LED. The Driver PCB has 2 red LEDs on it. If the LEDs are: **State 1**: Always on, but alternating brightness - board is communicating properly **State 2**: Alternating on and off very quickly - board is downloading software from Main Control Board. This state should be replaced by State 1 after programming. - Check Motherboard for short to ground

Table 2-2: Troubleshooting Guide (Continued)

Message	Symptom	Description	Possible Cause and Remedy
n/a	LED (light) is getting dimmer.	Fixture appears not to be operating at full brightness.	Luminaire has detected an over temperature condition... - The luminaire will reduce power to all 7 LEDs if it senses that one LED is operating over the specified temperature. LED temperature is read and recorded through a thermistor imbedded in each LED chip. The two yellow wires carry the information (on temperature) to the LED's respective driver PCB. - Check the thermistor temperatures of each LED through the fixture's LCD display. If one LED is much hotter than the others... - Check to see that the LED's fan is running / connected to the Driver PCB (Note, LED Driver PCB number 5 does not have a fan) OR, - If thermistor is not reading, replace Driver PCB OR, - If still no reading, replace the LED.
n/a	Colors (light output) not matching from luminaire to luminaire	Color output not matching other VLX wash fixtures operating at same control settings.	Calibration turned On or Off... - Check fixture calibration setting. Make sure calibration is set to same setting (On or Off) as other fixtures. - Check dimming curve setting. Make sure dimming curve selection (Linear or Curve) is same for all fixtures.

Special Care and Handling

WARNING: As with any repairs or maintenance to VARI❋LITE® luminaires, service should only be performed by a trained and qualified service technician or at an Authorized VARI❋LITE® Service Center.

Introduction

Being a solid-state fixture, and unlike most automated arc or tungsten fixtures, the VLX™ LED Wash Luminaire requires very little routine maintenance by the user. This section covers all the parts or assemblies that can be removed, cleaned, and checked by the user. Any additional maintenance or service should only be completed by an Authorized VARI❋LITE® Service Center.

Special Cleaning and Care Instructions

The VLX™ LED Wash Luminaire requires special care when it comes to cleaning front lens assembly.

Note: Additional care needs to be taken with the plastic components because they are much easier to scratch or damage than glass.

The following is a list of cleaning materials required to care for your VLX™ LED Wash Luminaire:

- Lint free lens tissue
- Lint free cotton swabs (for hard-to-reach spot cleaning)
- Lint or powder free gloves
- Reagent grade isopropyl alcohol
- A mild soap solution.

Reagent grade isopropyl alcohol is good to use on the VLX™ LED Wash Luminaire plastic optics with anti-reflection coatings.

If the lens is still dirty after using isopropyl alcohol, for instance if fingerprints or oil is just redistributed and not cleaned off the optic, then a mild soap and water solution can be used to gently wash the lens. Repeat the cleaning with isopropyl alcohol to eliminate streaks and soap residue.

WARNING: Under no circumstances should ammonia-based cleaners, acetone, or other harsh solvents be used on or near the VLX™ LED Wash Luminaire. These types of cleaners or solvents can permanently damage the optics or housings of the fixture.

If you have any questions regarding the use or care of your VLX™ LED Wash Luminaire, please contact Vari-Lite technical support at 1.877-VARI-LITE or +1.214.647.7880.

General Care and Equipment Handling

Below are some basic tips and information on handling VARI❋LITE® luminaires and their associated components.

Locations/Use



VARI❋LITE® luminaires are designed for dry locations only. Exposure to rain or moisture (including, but not limited to, fog machines, misters, etc.) may damage luminaires.

Solid State Electronics



Electrostatic Discharge (ESD)

Electrostatic discharge (ESD) presents a significant danger to solid state electronic components (semiconductor devices and PC board assemblies). Static electricity can build on a variety of common objects (including people) simply by handling or moving. ESD rarely results in immediate failure of a component, but shows up later as an intermittent problem or severely reduces the life of the component. All VARI❋LITE® products use solid state electronics and appropriate precautions to protect them should be observed when servicing.

Printed Circuit Boards (PCBs)

All PC boards should be shipped in electrostatic shielding bags. When handling PC boards or components, devices such as conductive mats and conductive wrist straps should be used whenever possible. If these precautionary devices are not available, handling of PC boards and components should be avoided.

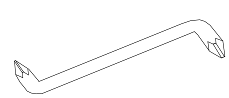


CAUTION: Black foam (used to package solid state electronics) should never be used for packing batteries or put in contact with PC boards which contain batteries.

Required Tools for VLX Wash Luminaire Service

To properly maintain and service VLX™ LED Wash Luminaires, Vari-Lite recommends that the following tools (in addition to the tools recommended during Vari-Lite’s technical training classes) be available to technicians:

- 90-degree Phillips head screwdriver (#2)
- Precision torque wrench capable of 80-in oz.
- Long 3/32" hex driver



Maintenance Procedures

Front Lens Removal and Cleaning

Tools:

- #2 Phillips screwdriver
- Slotted Screwdriver
- Refer to the list of cleaning materials in "Special Cleaning and Care Instructions" on page 17

WARNING: Ensure that power is completely removed from luminaire before attempting any work. Always wear eye protection and proper gloves when performing this procedure.

To clean from lens assembly and optics:

Step 1. Remove power from luminaire and allow unit to completely cool.

Step 2. Carefully set luminaire on upper enclosure, rotate head as shown in Figure 2-1, and engage tilt lock.

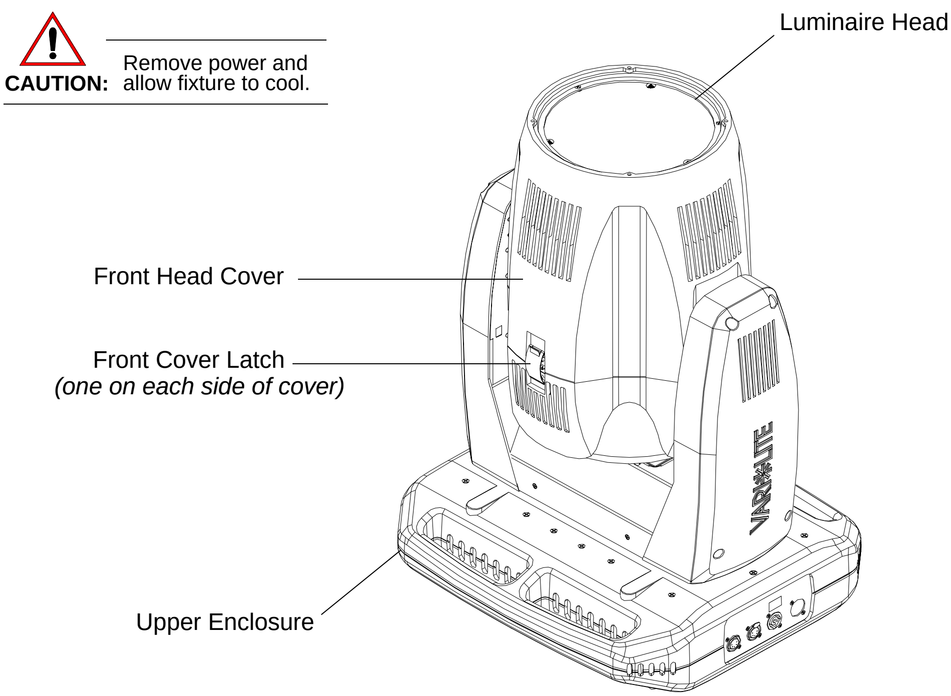


Figure 2-1: VLX Wash Luminaire

Step 3. Remove front head cover by unlatching both head cover latches. Please note that one side of front cover is secured by a safety tether. Locate clip attached to luminaire and unclip tether.

Step 4. Gently slide front head cover over optic assembly and set aside.

Step 5. Remove protective EMI shields from around optics assembly as shown in Figure 2-2 as follows:

WARNING: On one EMI shield, it is imperative to identify the ambient temperature sensor that protrudes through the EMI protective shield (it is on the opposite side where the front cover safety tether connects. When this shield is removed, great care has to employed not to damage the sensor.

a. At EMI shield (side where front cover safety tether connects), remove all screws securing cover. Be sure to note locations of removed screws in relation to EMI shield.

b. Remove shield and set aside.

c. At other EMI shield (side with ambient temperature sensor), remove all screws securing cover. Be sure to note locations of removed screws in relation to EMI shield.

d. Carefully work shield over ambient temperature sensor taking care not to snag or pull sensor. Once shield is clear of sensor, set shield aside.

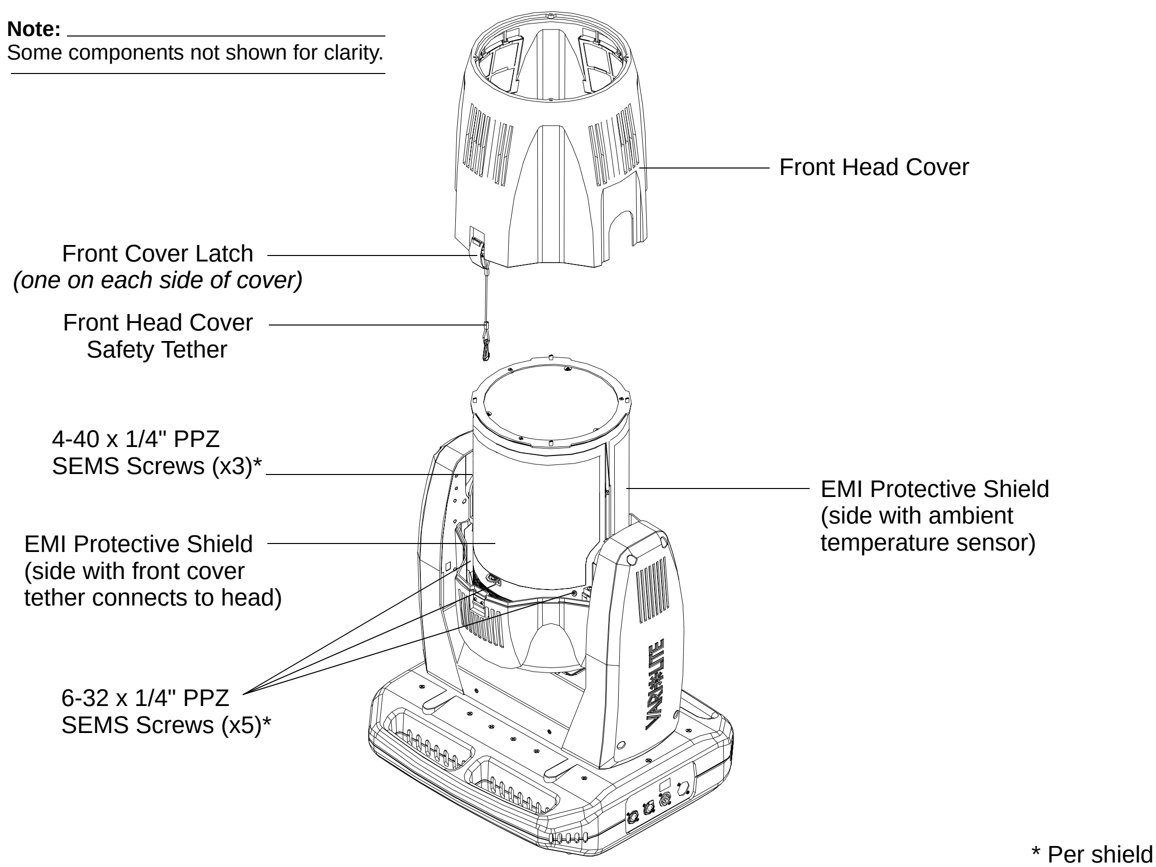


Figure 2-2: Front Head Cover and EMI Shields Removal

Step 6. At head assembly, as shown in Figure 2-3, remove front lens assembly as follows:

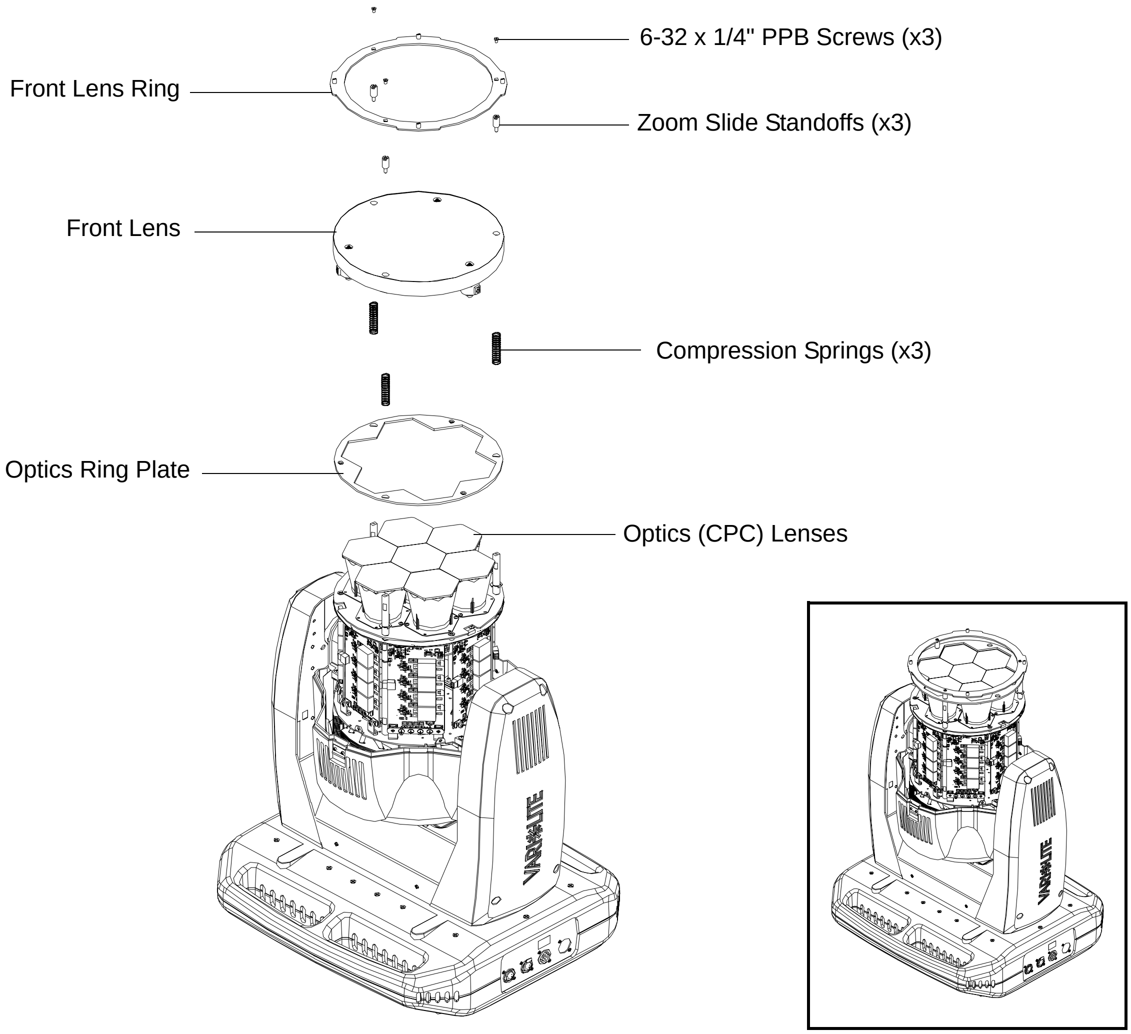


Figure 2-3: Front Lens Removal

Note: Before proceeding, please note orientation of both front lens ring and front lens assembly. They must be mounted in their original orientation/position for the front head cover to reinstall properly.

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a. Remove three screws securing front lens and lens ring. Set components aside.

b. Note zoom motor wiring and routing. Disconnect wiring from zoom motors to motherboard.

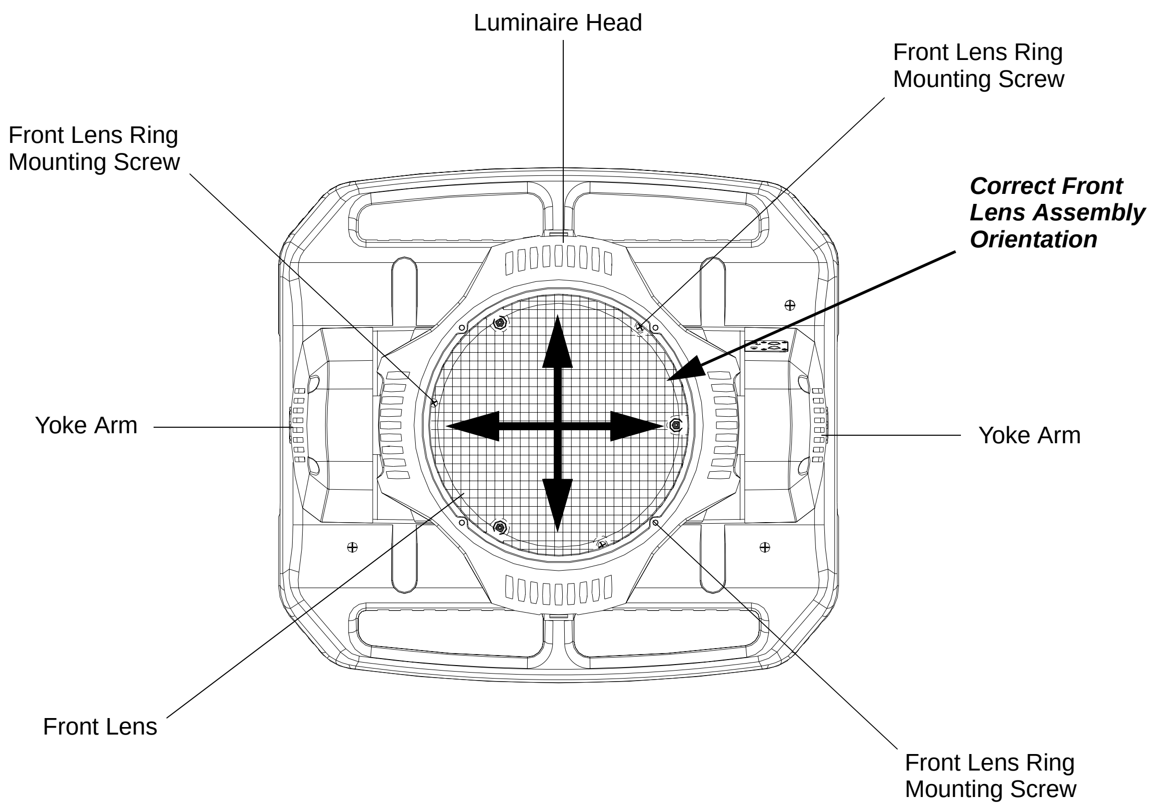
c. At front lens, loosen and remove and remove three stand-offs. Remove lens and place lens on a clean, lint free cloth as not to damage or scratch lens.

d. Remove three compression springs and optic ring plate. Set components aside.

Step 7. Clean front lens and optics according to the guidelines set forth in “Special Cleaning and Care Instructions” on page 17.

Step 8. Once cleaning is complete, reassemble by performing Steps 6 through 2 in reverse order. Be sure to orient front lens as shown in Figure 2-4.

WARNING: Front Lens Assembly must be mounted in orientation show. If installed incorrectly, luminaire performance will be affected.



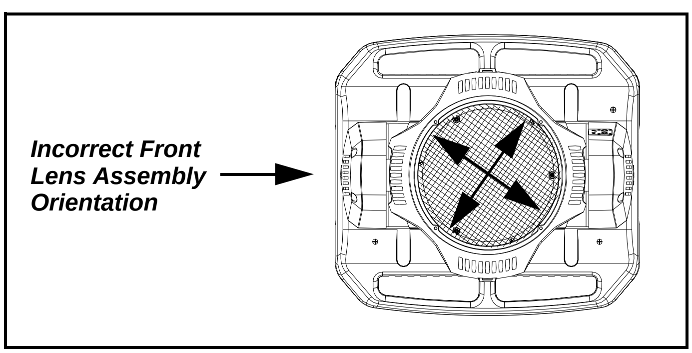


Figure 2-4: Front Lens Orientation

Step 9. Once luminaire is reassembled, power and test.

Beam Spreader Removal for Fixed Beam Applications

Tools:

- #2 Phillips screwdriver
- Slotted screwdriver

WARNING: Ensure that power is completely removed from luminaire before attempting any work. Always wear eye protection and proper gloves when performing this procedure.

To remove beam spreader assembly for fixed beam applications:

Step 1. Remove power from luminaire and allow unit to completely cool.

Step 2. Carefully set luminaire on upper enclosure, rotate head as shown in Figure 2-5, and engage tilt lock.

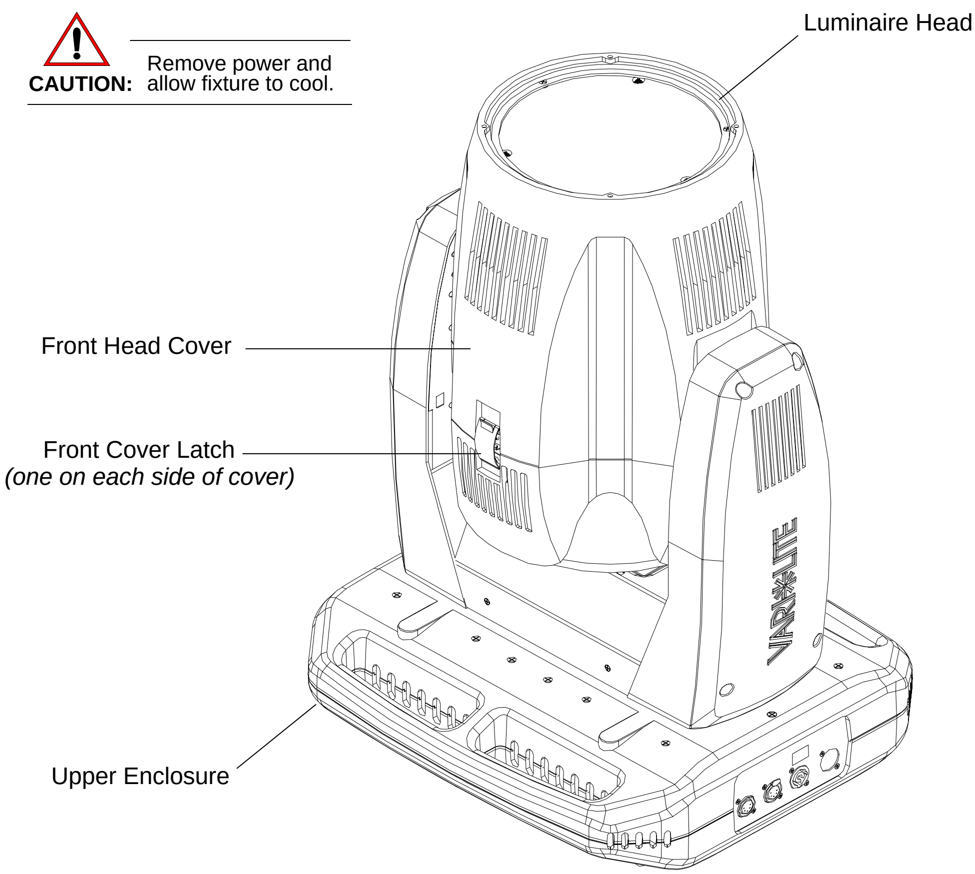


Figure 2-5: VLX Wash Luminaire

Step 3. Remove front head cover by unlatching both head cover latches. Please note that one side of front cover is secured by a safety tether. Locate clip attached to luminaire and unclip tether.

Step 4. Gently slide front head cover over optic assembly and set aside.

Step 5. Remove protective EMI shields from around optics assembly as shown in Figure 2-6 as follows:

WARNING: On one EMI shield, it is imperative to identify the ambient temperature sensor that protrudes through the EMI protective shield (it is on the opposite side where the front cover safety tether connects. When this shield is removed, great care has to employed not to damage the sensor.

a. At EMI shield (side where front cover safety tether connects), remove all screws securing cover. Be sure to note locations of removed screws in relation to EMI shield.

b. Remove shield and set aside.

c. At other EMI shield (side with ambient temperature sensor), remove all screws securing cover. Be sure to note locations of removed screws in relation to EMI shield.

d. Carefully work shield over ambient temperature sensor taking care not to snag or pull sensor. Once shield is clear of sensor, set shield aside.

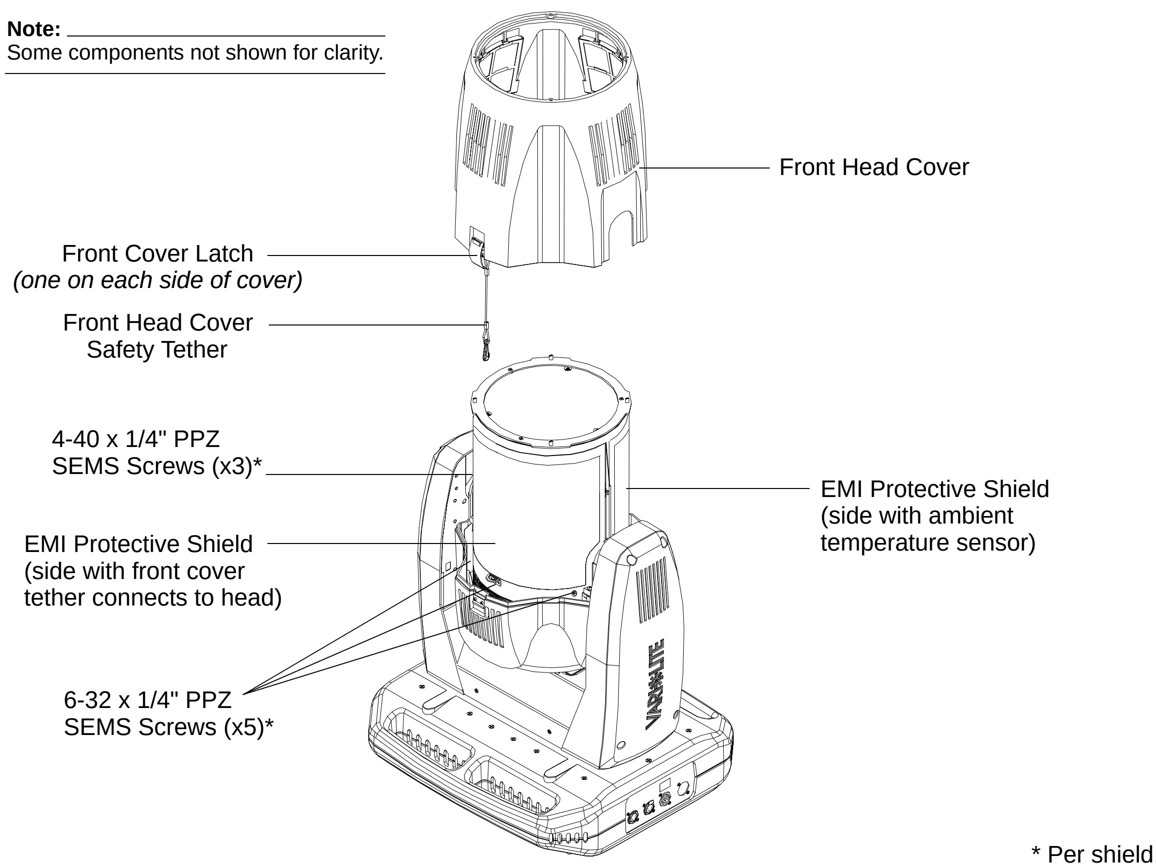
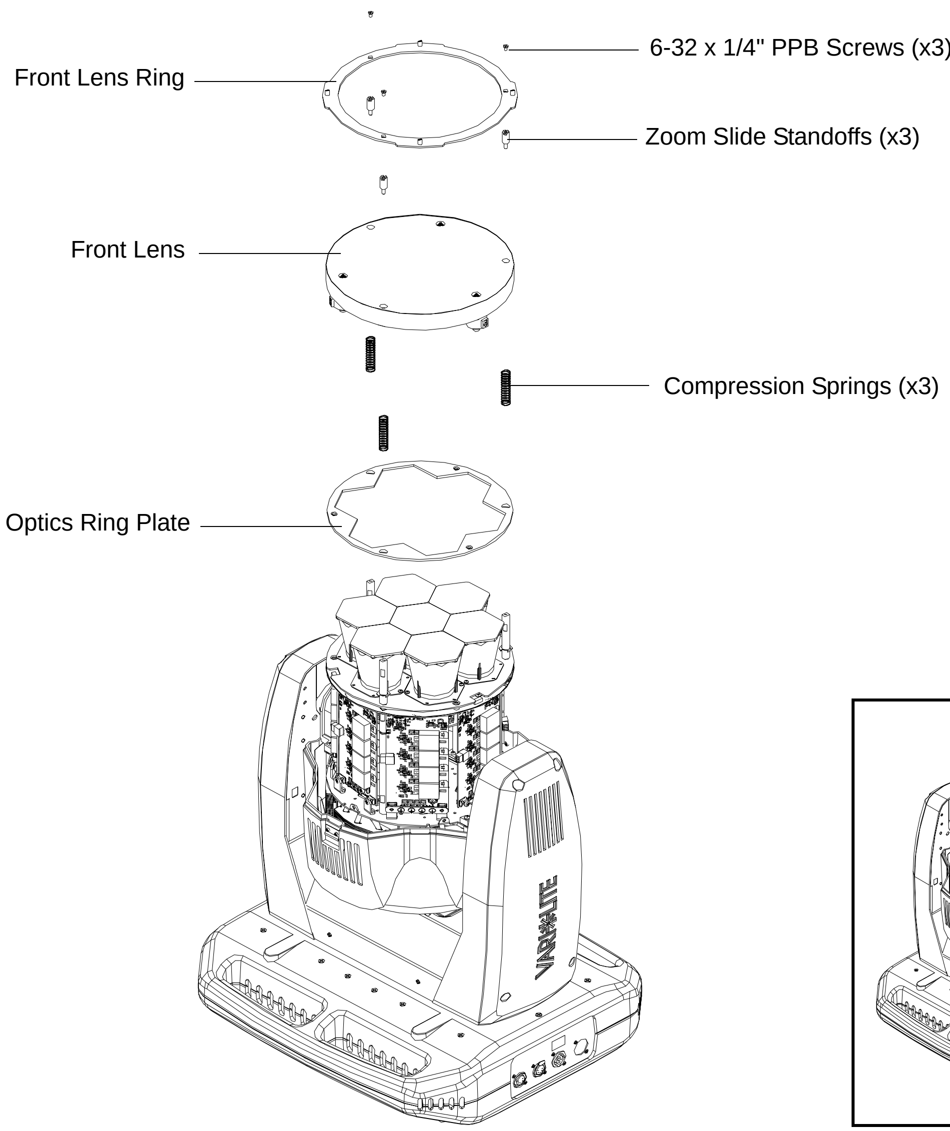


Figure 2-6: Front Head Cover and EMI Shields Removal

Step 6. At head assembly, as shown in Figure 2-7, remove front lens assembly as follows:



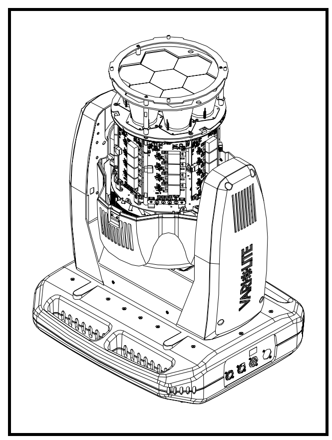


Figure 2-7: Front Lens Removal

a. Remove three screws securing front lens and lens ring. Set components aside.

b. Note zoom motor wiring and routing. Disconnect wiring from zoom motors to motherboard.

c. At front lens, loosen and remove and remove three stand-offs. Remove lens and place lens on a clean, lint free cloth as not to damage or scratch lens.

d. Remove three compression springs and optic ring plate. Set components aside.

Step 7. Reassemble luminaire for fixed beam applications as follows:

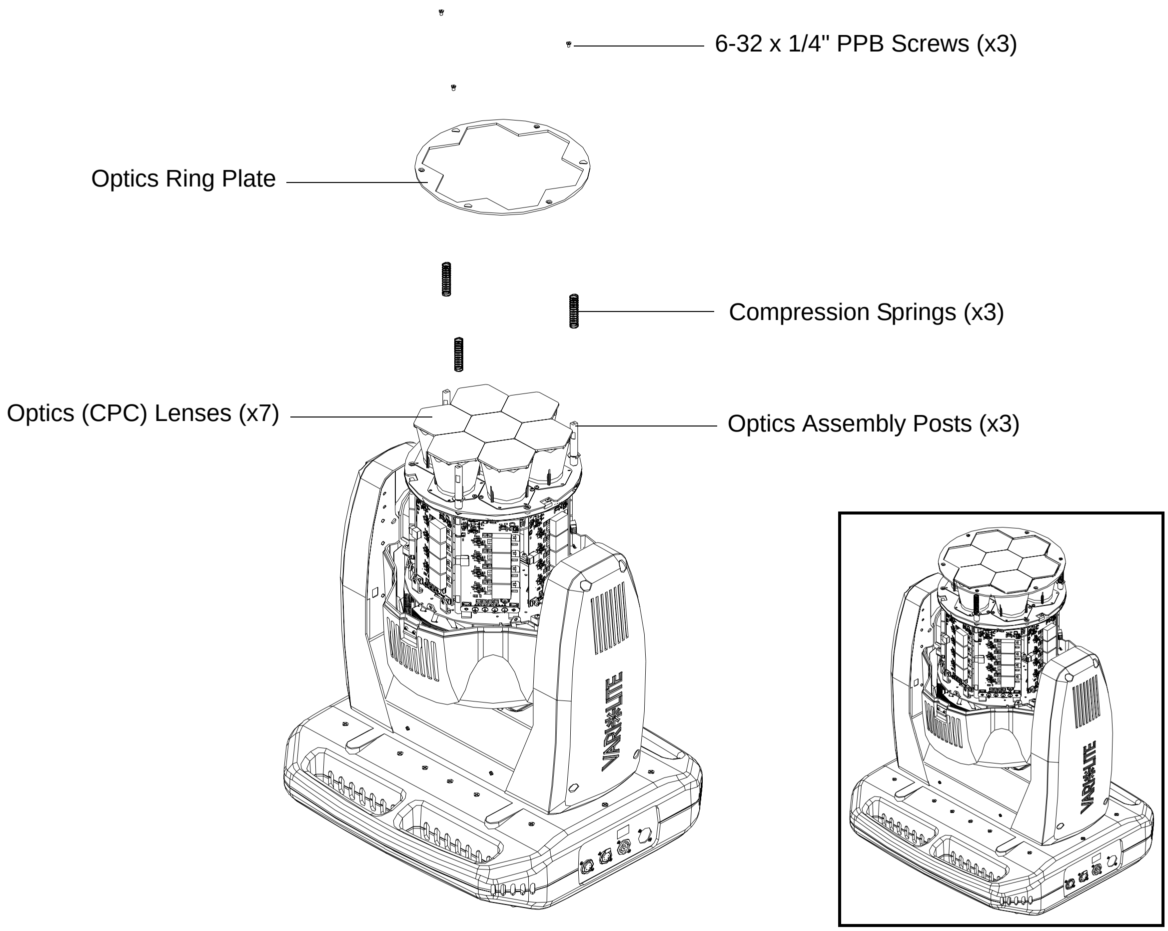


Figure 2-8: Fixed Beam Application Assembly

a. As shown in Figure 2-8, slide compression springs over optics assembly posts.

b. Turn optics ring (60°) so its mounting holes are in line with optics assembly posts but does not slide over optics (CPC) lenses.

c. Using three standoffs, secure Optics Ring Plate to assembly.

d. Be sure to reinstall front ring in proper orientation. Secure front ring with three 6-32 x 1/4" PPB screws.

Step 8. Reinstall EMI protective shields. Use care when installing EMI shield on side of ambient temperature sensor as not to damage sensor.

Step 9. Once luminaire is reassembled, power and test.

Note: Carefully store front lens in a soft lint-free, non-abrasive covering for future use. Be sure to keep all parts (removed with front lens) with front lens in a separate container (as not to damage lens).

Main Control Board (MCB) Replacement

Tools:

- #2 Phillips screwdriver

WARNING: Ensure that power is completely removed from luminaire before attempting any work.

To remove and replace MCB:

Step 1. Remove power from luminaire.

Step 2. At tilt-lock side yoke arm cover, remove yoke arm cover by loosening four 1/4-turn Dzus fasteners. Refer to Figure 2-9 for details.

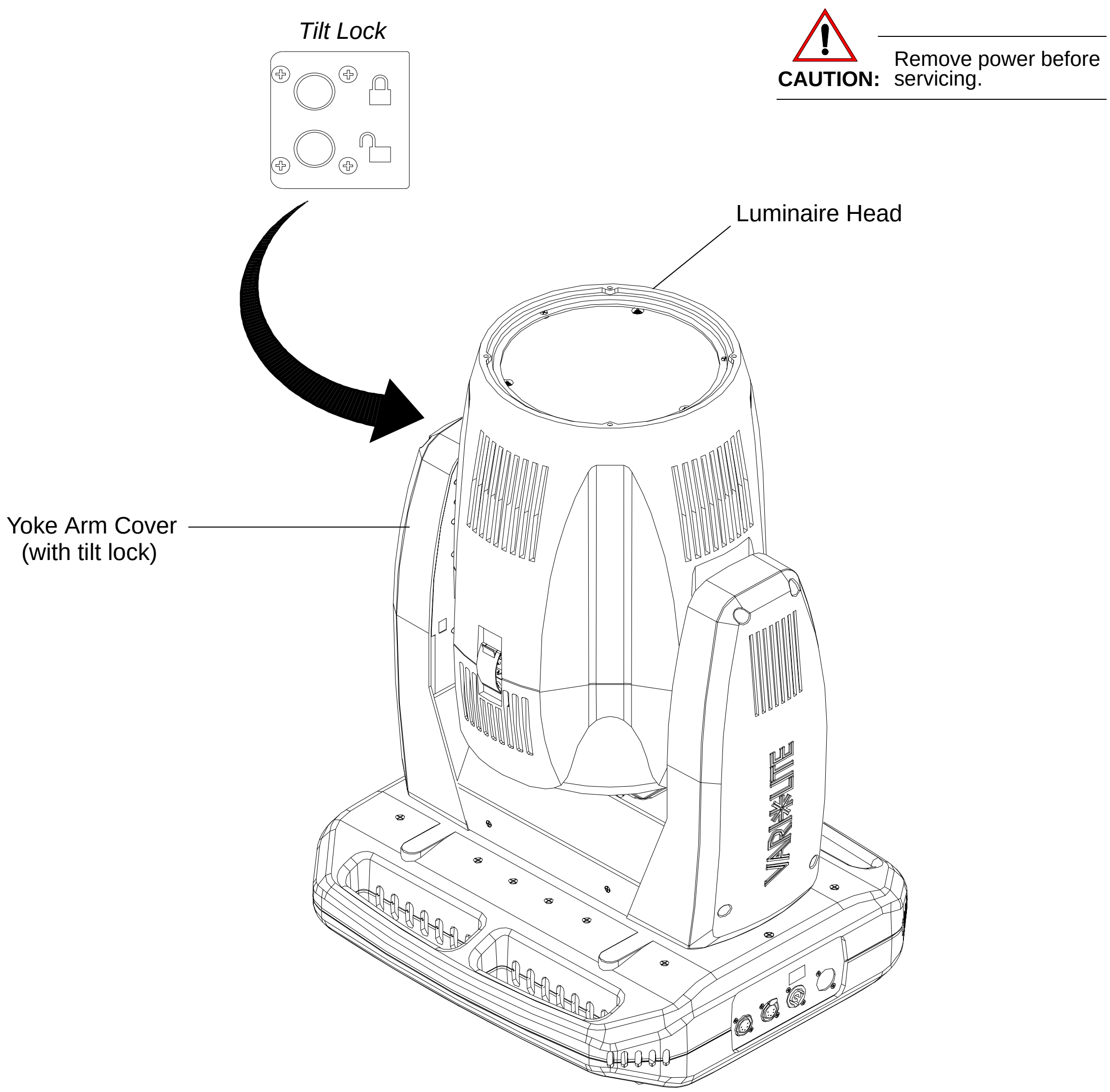


Figure 2-9: VLX Wash Luminaire

Step 3. At MCB, disconnect wiring (note all wire routing):

MCB Connector	Cable Assembly
J16	Pan / Tilt Wiring Harness
J15	Zoom Optic Wiring Harness
J14	LCD Display Comm
J13	LED Driver Comm
J8	24V DC Input
J11	DMX Comm
J9	USB

Step 4. As shown in Figure 2-10, remove six 6-32 x 3/8" PPZ SEMS screws.

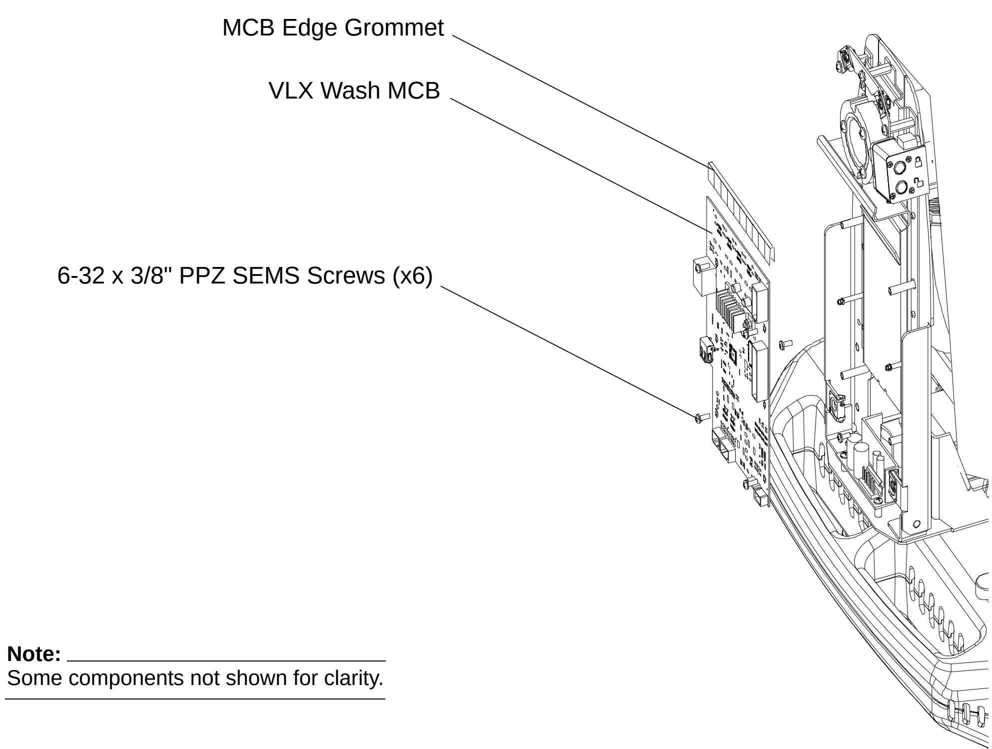


Figure 2-10: VLX Wash Main Control Board (MCB)

Step 5. Remove edge grommet from MCB and install on replacement MCB.

Step 6. Install replacement MCB by performing Step 2 through 5 in reverse order.

Step 7. Power luminaire and test.

Low Voltage Supply (LVS) Replacement

Tools:

- #2 Phillips screwdriver
- 90-degree, #2 Phillips head screwdriver

WARNING: Ensure that power is completely removed from luminaire before attempting any work.

To remove and replace LVS:

Step 1. Remove power from luminaire.

Step 2. At tilt-lock side yoke arm cover, remove yoke arm cover by loosening four 1/4-turn Dzus fasteners. Refer to Figure 2-11 for details.

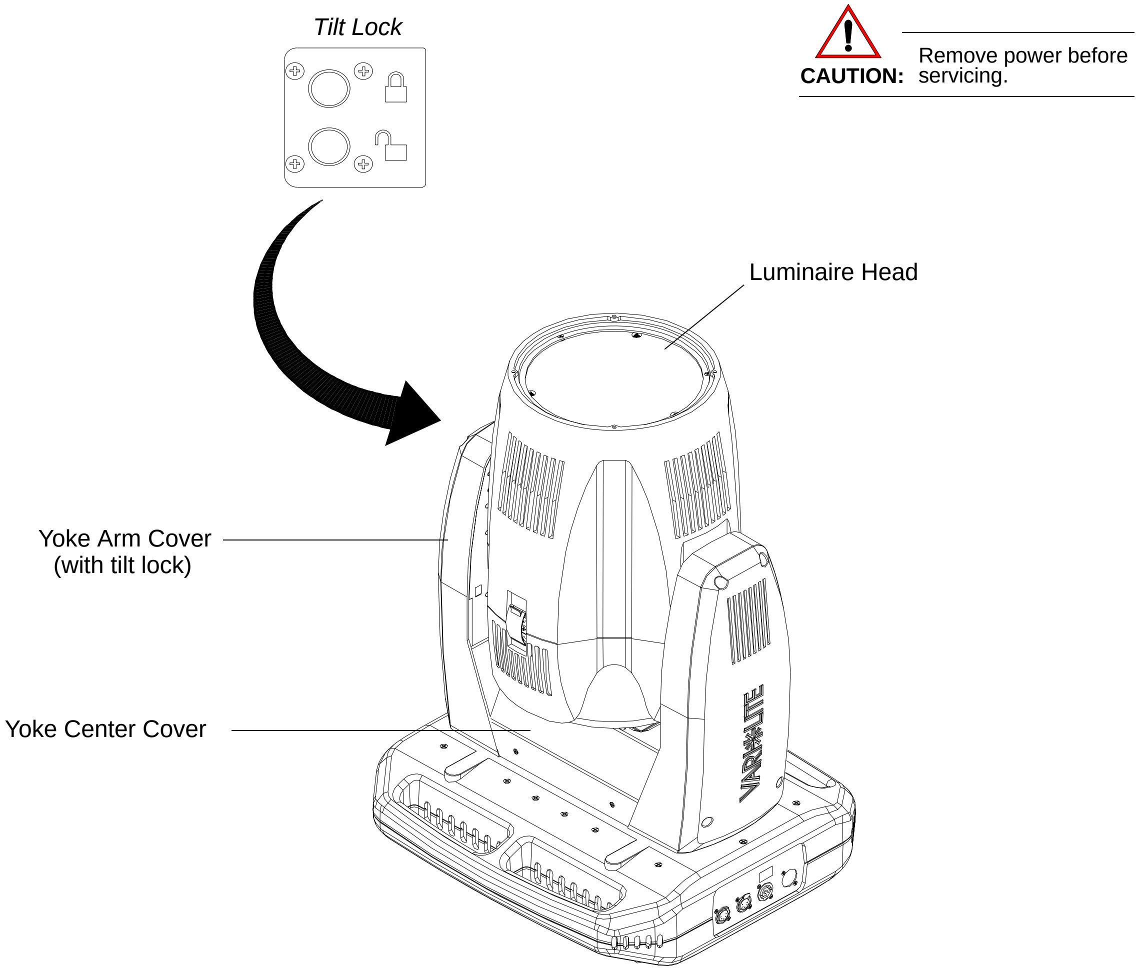


Figure 2-11: VLX Wash Luminaire

Step 3. Remove MCB as described in “Main Control Board (MCB) Replacement” on page 27.

Step 4. As shown in Figure 2-12, remove Yoke Center Cover by removing six 6-32 x 3/8" PFB screws.

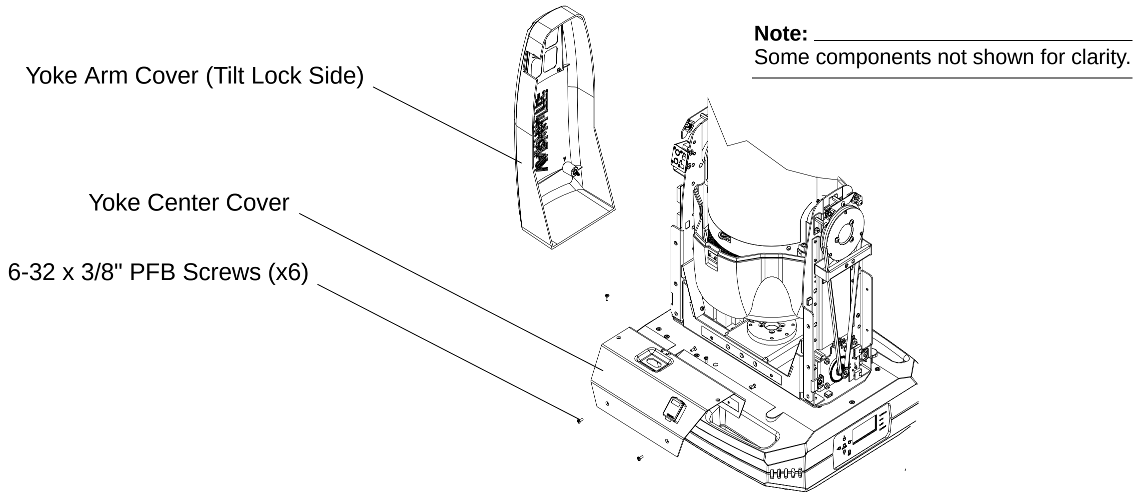


Figure 2-12: VLX Wash Yoke Center Cover

Step 5. Disconnect wiring from LVS.

Step 6. As shown in Figure 2-13, remove four 6-32 x 3/8" PPZ SEMS screws securing LVS.

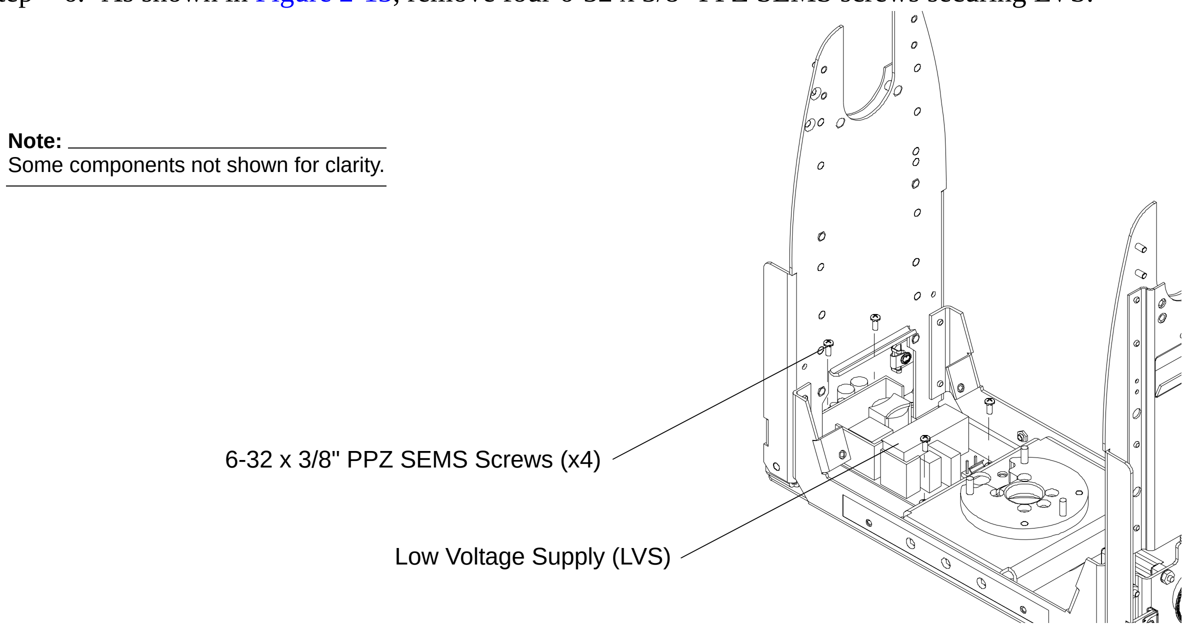


Figure 2-13: VLX Wash LVS Removal

Step 7. Carefully slide LVS from yoke assembly (note LVS orientation).

Step 8. Install replacement LVS by performing steps 2 through 7 in reverse order.

Step 9. Power luminaire and test.

Tilt Motor Assembly Replacement

Tools:

- #2 Phillips screwdriver
- 11/32" Nutdriver
- 90-degree, #2 Phillips head screwdriver

WARNING: Ensure that power is completely removed from luminaire before attempting any work.

To remove and replace Tilt Motor Assembly:

Step 1. Remove power from luminaire.

Step 2. At yoke arm cover without tilt lock assembly, remove yoke arm cover by loosening four 1/4-turn Dzus fasteners. Refer to Figure 2-14 for details.

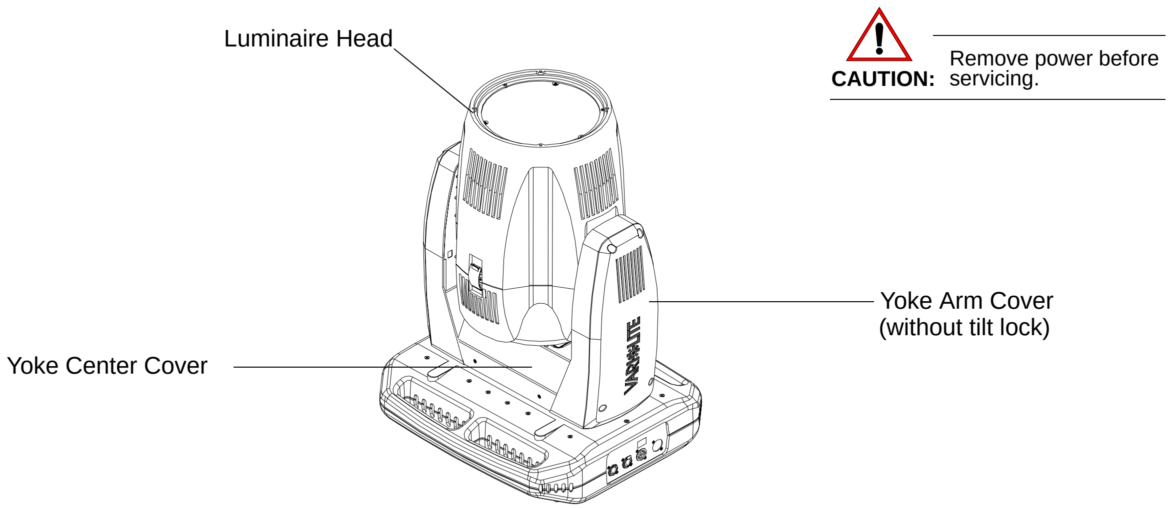


Figure 2-14: VLX Wash Luminaire

Step 3. As shown in Figure 2-15, remove Yoke Center Cover by removing six 6-32 x 3/8" PFB screws.

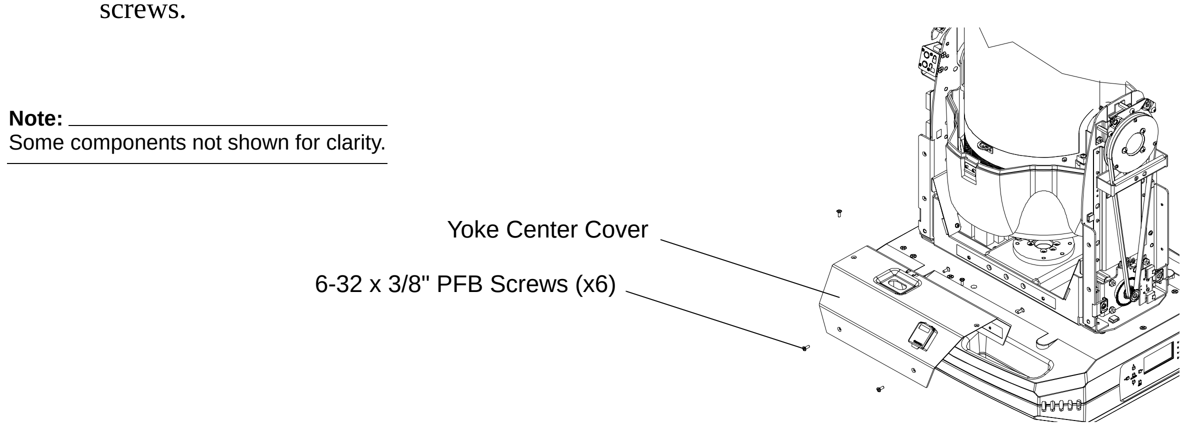


Figure 2-15: VLX Wash Yoke Center Cover

Step 4. Disconnect wiring from tilt encoder PCB. Note routing of wiring.

Step 5. Using 11/32" nutdriver, loosen, but do not remove, four #8 KEPS nuts until tilt motor assembly will slide up towards spring (if tilt belt is squeezed together). Refer to Figure 2-16 for details.

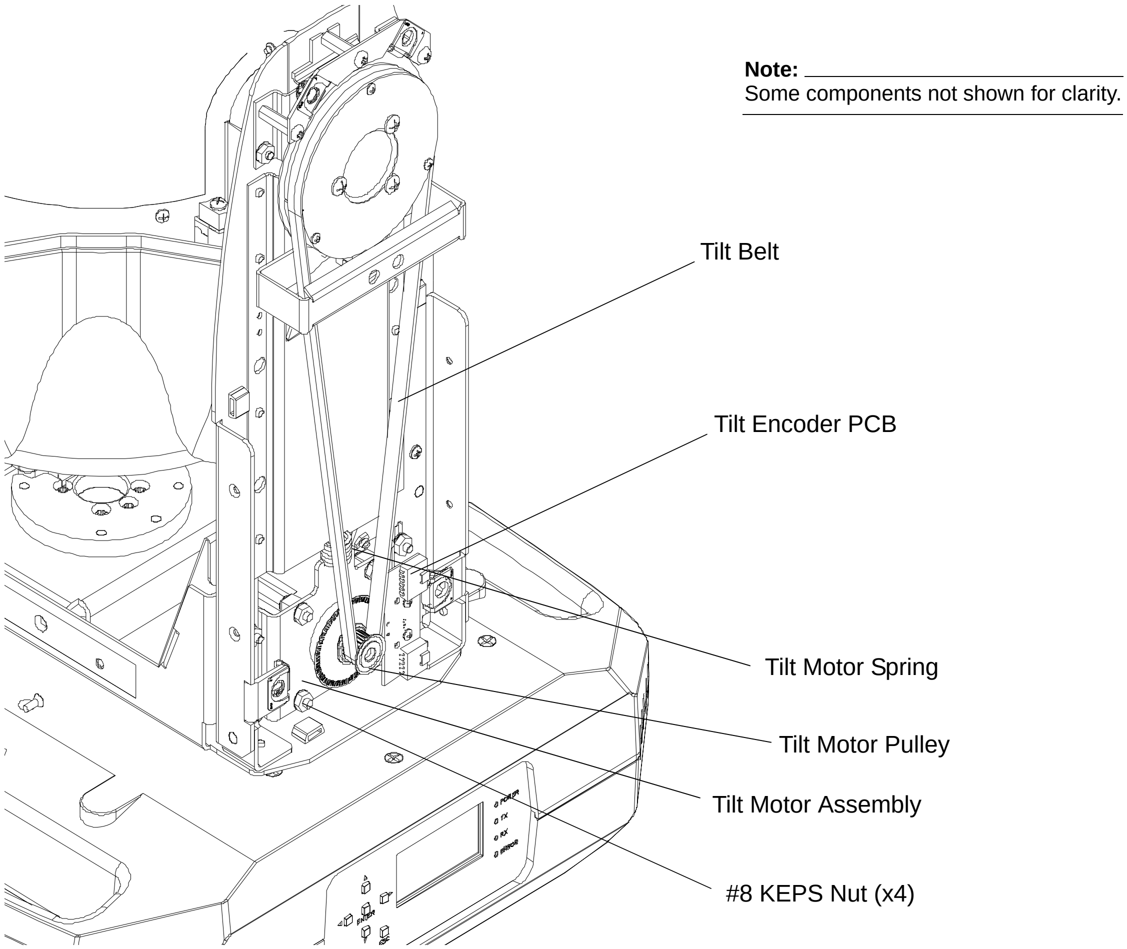


Figure 2-16: VLX Wash Tilt Motor Assembly

Step 6. Carefully remove tilt belt from tilt driven pulley.

Step 7. At tilt motor assembly, remove four #8 KEPS nuts loosened in Step 5.

Step 8. Disconnect tilt motor power harness.

Step 9. Press motor straight in from yoke side until spring can be removed.

Step 10. Angle drive pulley down and remove from yoke.

Step 11. Replace assembly by performing Steps 5 through 10 in reverse, making sure #8 KEPS nuts are loose enough for motor to slide against spring.

Step 12. As shown in Figure 2-17, tighten motor in order shown (in an 8, 10, 2, 4 o'clock pattern with the spring being 12 noon).

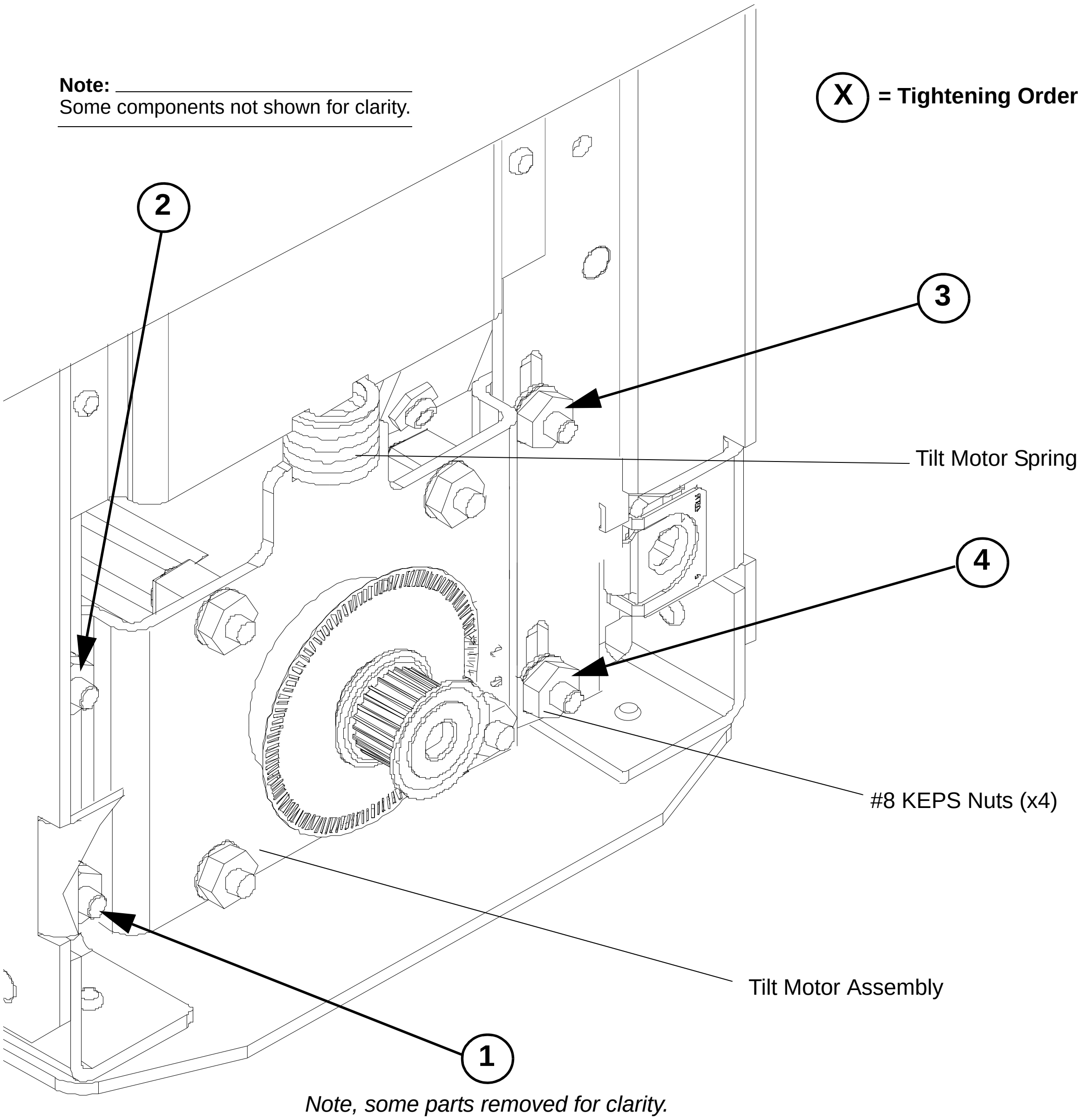


Figure 2-17: Tilt Motor Assembly Installation

Step 13. Be sure encoder wiring does not catch on cover mounts.

Step 14. Reconnect Encoder PCB wiring.

Step 15. Reinstall yoke center and arm covers.

Step 16. Power luminaire and test.

Tilt Encoder PCB Replacement

Tools:

- #2 Phillips screwdriver

WARNING: Ensure that power is completely removed from luminaire before attempting any work.

To remove and replace Tilt Encoder PCB:

Step 1. Remove power from luminaire.

Step 2. At yoke arm cover without tilt lock assembly, remove yoke arm cover by loosening four 1/4-turn Dzus fasteners. Refer to Figure 2-18 for details.

CAUTION: Remove power before servicing.

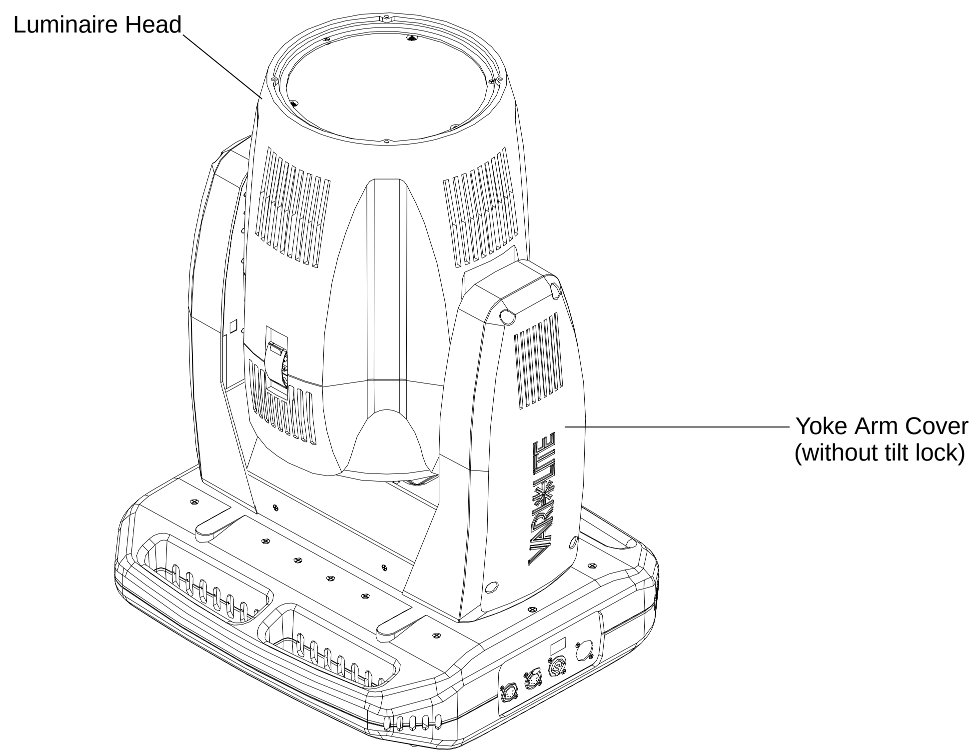


Figure 2-18: VLX Wash Luminaire

Step 3. Disconnect wiring from tilt encoder PCB. Note routing of wiring.

Step 4. As shown in Figure 2-19, remove two 4-40 x 3/8" PPZ SEMS screws.

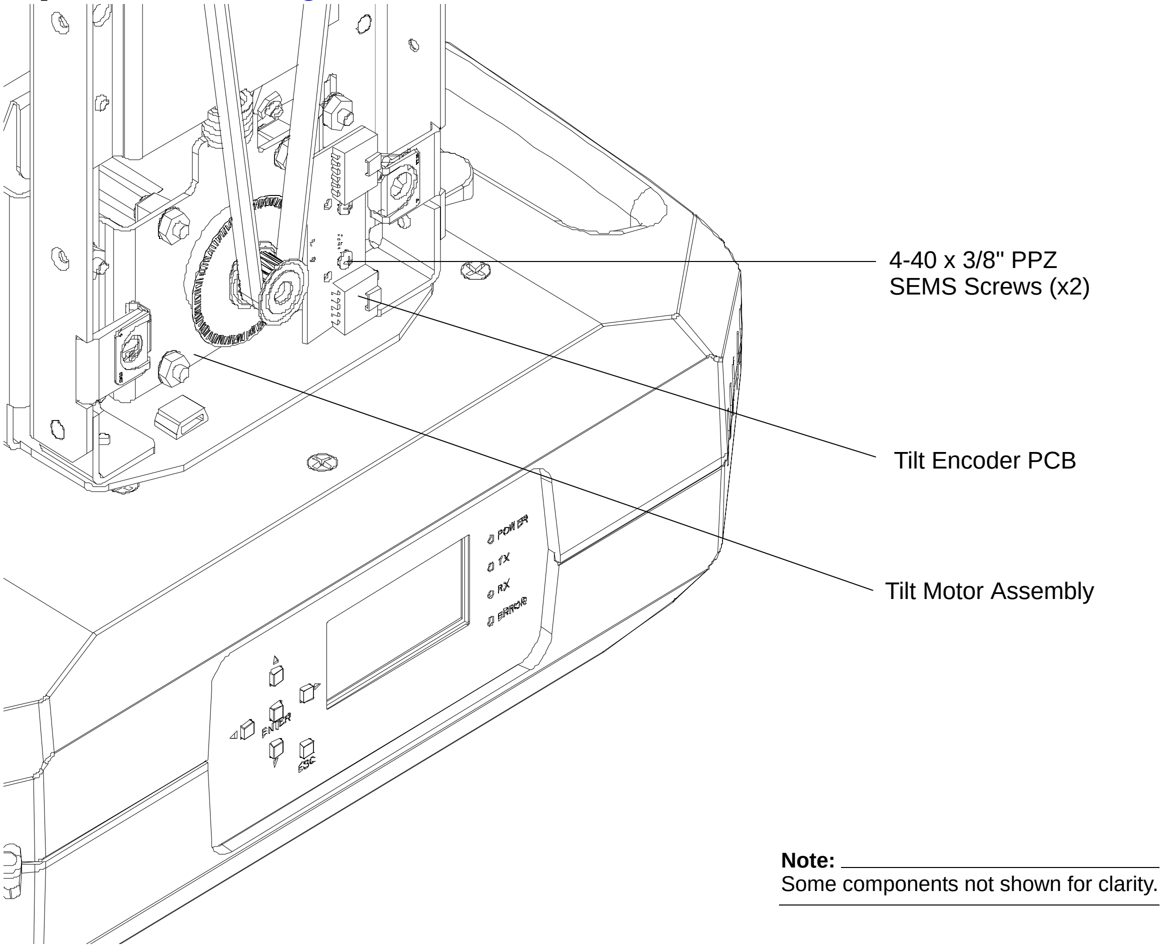


Figure 2-19: VLX Wash Tilt Encoder PCB

Step 5. Replace tilt encoder PCB performing Steps 2 through 4 in reverse.

Note: Be sure encoder wiring does not catch on cover mounts. Also, make sure code wheel passes freely and through center of sensor.

Step 6. Power luminaire and test.

Tilt COT Sensor Replacement

Tools:

- #2 Phillips screwdriver
- Diagonal wire cutter

WARNING: Ensure that power is completely removed from luminaire before attempting any work.

To remove and replace Tilt COT Sensor:

Step 1. Remove power from luminaire.

Step 2. At yoke arm cover without tilt lock assembly, remove yoke arm cover by loosening four 1/4-turn Dzus fasteners. Refer to Figure 2-20 for details.

CAUTION: Remove power before servicing.

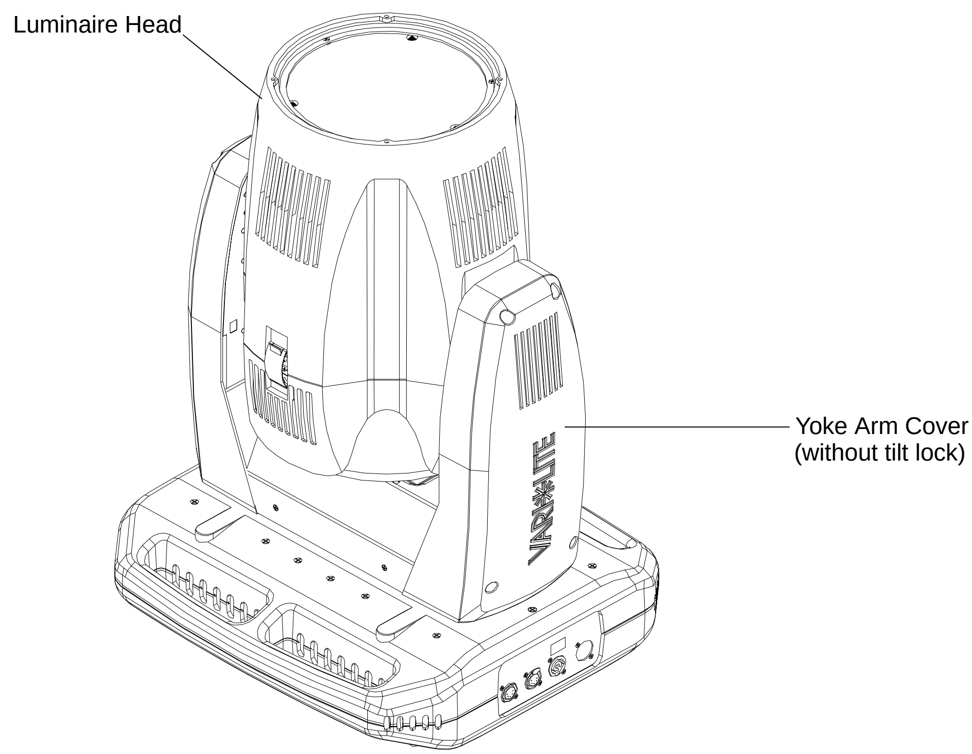


Figure 2-20: VLX Wash Luminaire

Step 3. Noting placements and using diagonal wire cutter, cut three cable ties securing wiring to yoke assembly.

Step 4. Disconnect tilt COT sensor from tilt encoder PCB.

Step 5. As shown in Figure 2-21, passing screwdriver through holes in harness guide, remove two 4-40 x 1/4" PPB screws.

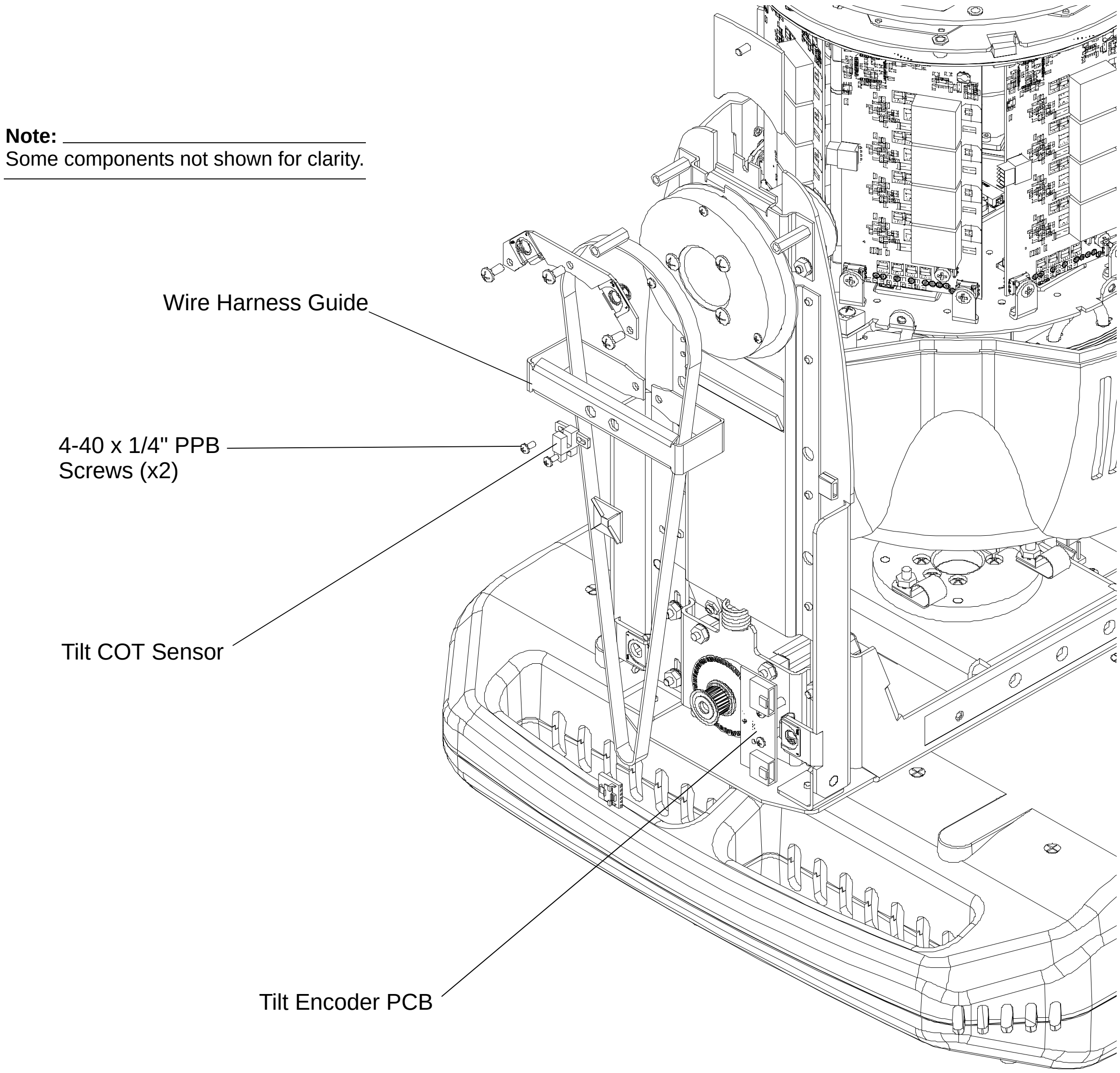


Figure 2-21: VLX Wash Tilt Sensor Replacement

Step 6. Remove tilt COT sensor (note, wire harness guide will come loose).

Step 7. Replace tilt COT sensor by performing Steps 2 through 6 in reverse order.

Step 8. Power luminaire and test.

LED Driver PCB

Tools:

- #2 Phillips screwdriver
- 90-degree, #2 Phillips head screwdriver

WARNING: Ensure that power is completely removed from luminaire before attempting any work.

To remove and replace LED Driver PCBs:

Step 1. Remove power from luminaire and allow unit to completely cool.

Step 2. Carefully set luminaire on upper enclosure, rotate head as shown in Figure 2-22, and engage tilt lock.

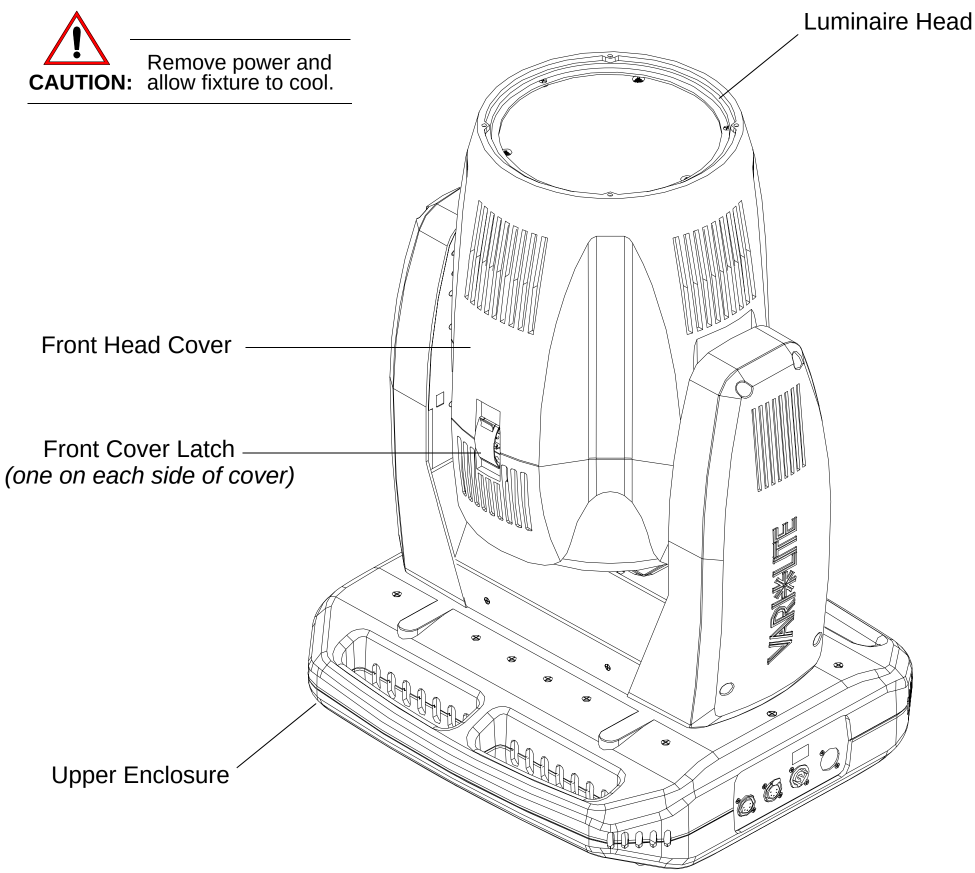


Figure 2-22: VLX Wash Luminaire

Step 3. Remove front head cover by unlatching both head cover latches. Please note that one side of front cover is secured by a safety tether. Locate clip attached to luminaire and unclip tether.

Step 4. Gently slide front head cover over optic assembly and set aside.

Step 5. Remove protective EMI shields from around optics assembly as shown in Figure 2-23 as follows:

WARNING: On one EMI shield, it is imperative to identify the ambient temperature sensor that protrudes through the EMI protective shield (it is on the opposite side where the front cover safety tether connects. When this shield is removed, great care has to employed not to damage the sensor.

a. At EMI shield (side where front cover safety tether connects), remove all screws securing cover. Be sure to note locations of removed screws in relation to EMI shield.

b. Remove shield and set aside.

c. At other EMI shield (side with ambient temperature sensor), remove all screws securing cover. Be sure to note locations of removed screws in relation to EMI shield.

d. Carefully work shield over ambient temperature sensor taking care not to snag or pull sensor. Once shield is clear of sensor, set shield aside.

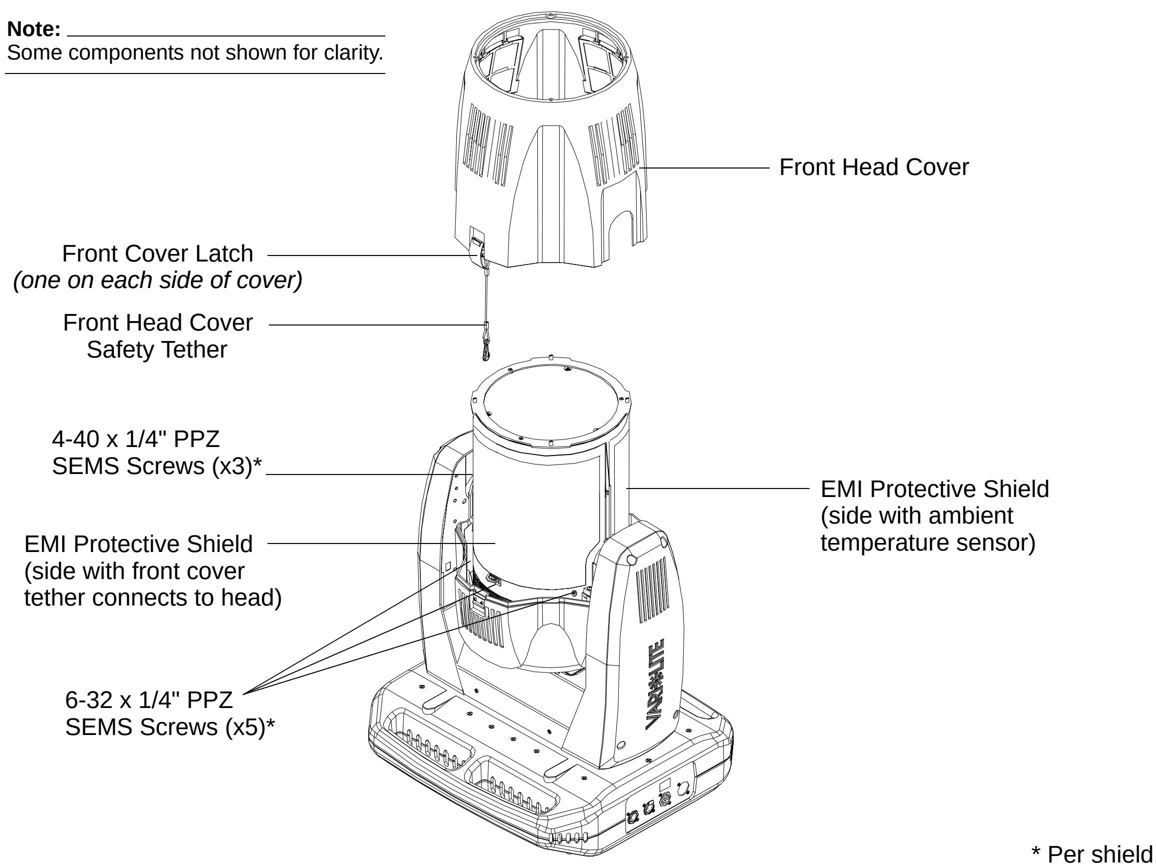


Figure 2-23: Front Head Cover and EMI Shields Removal

Step 6. At head assembly, as shown in Figure 2-24, locate LED driver PCB to be replaced.

Note: It is important to note wire harness routing for LED driver PCB being replaced. Wiring must be routed exactly as originally installed.

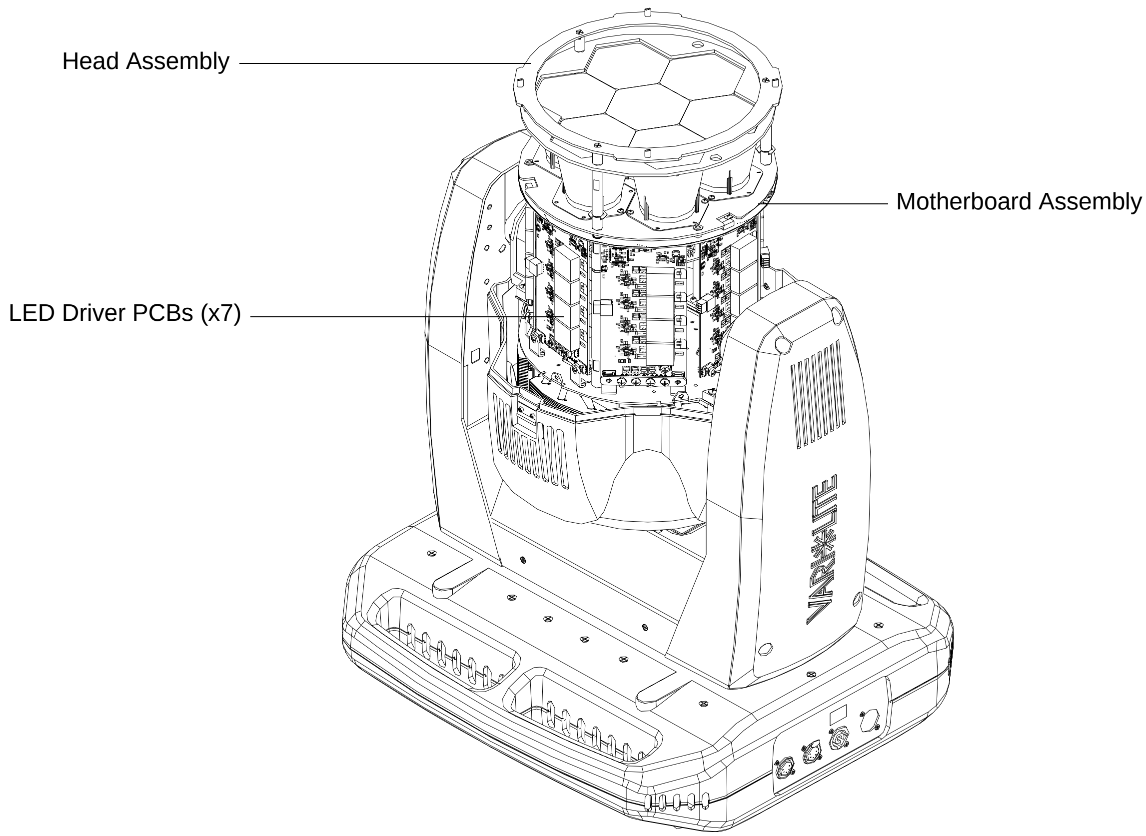


Figure 2-24: LED Driver PCB Removal

Step 7. On LED driver PCB Disconnect -12V DC at connection J4 by removing terminal screw.

Note: The exact screw type must be used in installation of replacement LED driver PCB.

Step 8. Disconnect fan at connection J3 (MTA4). Note, LED Driver PCB 5 does not have a fan connected to it.

Step 9. Disconnect +12V from terminals at connections J5 and J6.

Note: LED Driver PCBs 3 and 6 have a buss bar that will be removed as part of Step 9.

Step 10. Carefully slide the LED driver PCB down and out of motherboard. There is a set of pins on the driver that goes into a header on the motherboard assembly. There are also two tabs on LED driver PCB that lock into slots on motherboard.

Step 11. Note the routing of wiring to LED (it will be necessary on the replacement LED to bend with wiring to match the original)

Step 12. Disconnect wiring from LED. Note that it might be required to remove a neighboring LED driver.

Step 13. Install replacement LED driver PCB by performing Step 3 through 12 in reverse order.

Note: When installing replacement LED Driver PCB, it is important not to bend the pins on LED Driver PCB that go into motherboard assembly header. Carefully work LED Driver PCB into a suitable position to slide directly into header.

Step 14. Disengage tilt lock.

Step 15. Power luminaire and test.

Motherboard Assembly

Tools:

- #2 Phillips screwdriver
- Slotted screwdriver

WARNING: Ensure that power is completely removed from luminaire before attempting any work.

To remove and replace motherboard assembly:

Step 1. Remove power from luminaire and allow unit to completely cool.

Step 2. Carefully set luminaire on upper enclosure, rotate head as shown in Figure 2-25, and engage tilt lock.

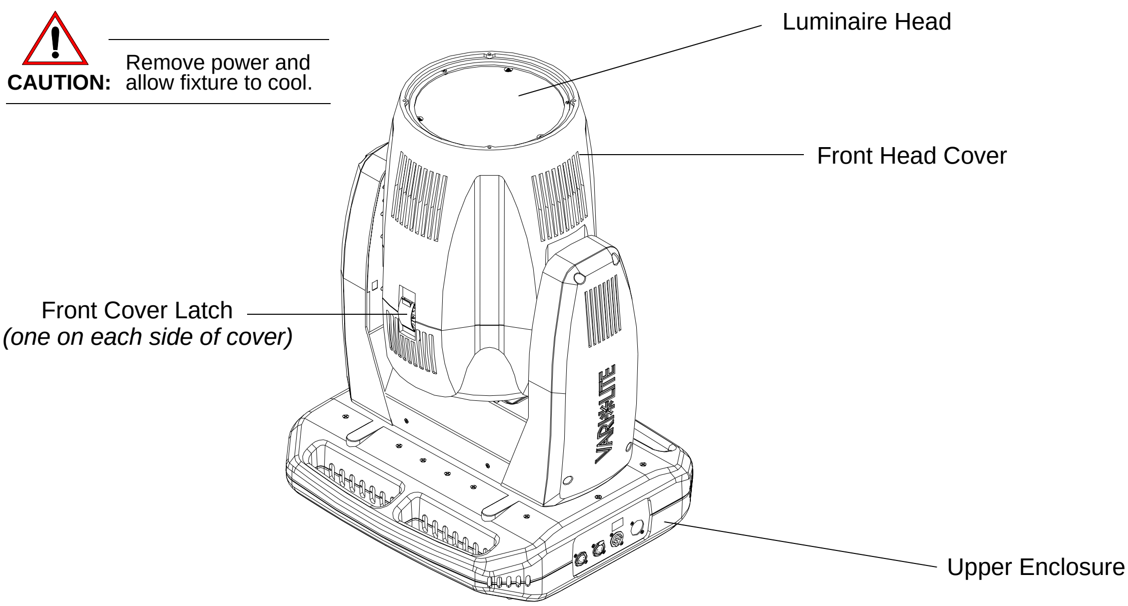


Figure 2-25: VLX Wash Luminaire

WARNING: Note that CPC lens assembly, light pipe, and LEDs must be handled with extreme care or not be damaged. All fingerprints, grease, smudges, etc. must be removed. Any damage to any of these components will require replacement with new.

Step 3. Remove head cover, EMI shields and zoom lens array assembly as described in procedure for "Front Lens Removal and Cleaning" on page 19.

Step 4. Remove CPC lens assemblies as described in procedure for "CPC Lens Assembly" on page 49.

Step 5. Disconnect LED Com (connection JST-6) from motherboard assembly.

Step 6. Disconnect Zoom Com (connection JST-4) from motherboard assembly.

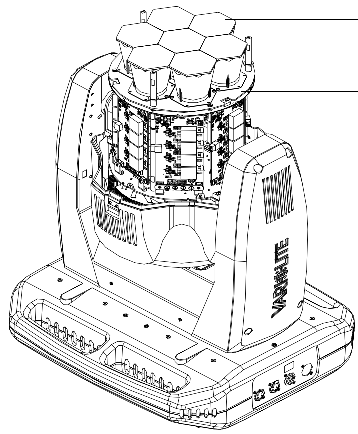


Figure 2-26: Motherboard Assembly

Step 7. Remove three 6-32 x 3/8" PFZ screws as indicated in Figure 2-27.

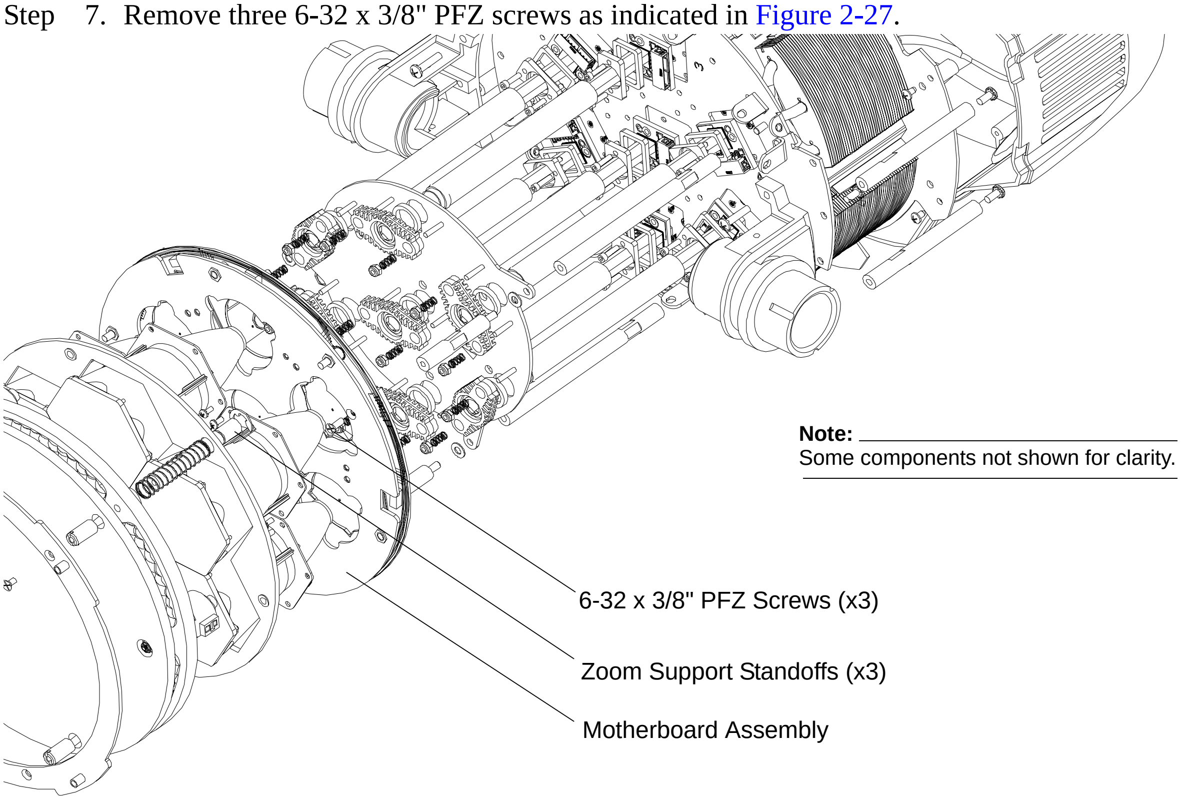


Figure 2-27: Motherboard Assembly Removal

Step 8. Noting orientation, carefully lift mother board assembly from fixture.

Step 9. Remove three Zoom Support Standoffs from top of Motherboard Assembly, noting their orientation. Set standoffs aside.

Step 10. From motherboard PCB side, remove three 8-32x3/4" PPZ screws with nylon washers. Set screws and washers aside.

Step 11. Install motherboard assembly by performing Steps 3 through 10 in reverse.

Step 12. Disengage tilt lock.

Step 13. Power luminaire and test.

Head Fan (Cooling System) Assembly

Tools:

- #2 Phillips screwdriver

WARNING: Ensure that power is completely removed from luminaire before attempting any work. Always wear eye protection and proper gloves when performing this procedure.

To remove and replace fan in LED cooling assembly:

Step 1. Remove power from luminaire and allow unit to completely cool.

Step 2. Carefully set luminaire on upper enclosure, rotate head as shown in Figure 2-28, and engage tilt lock.

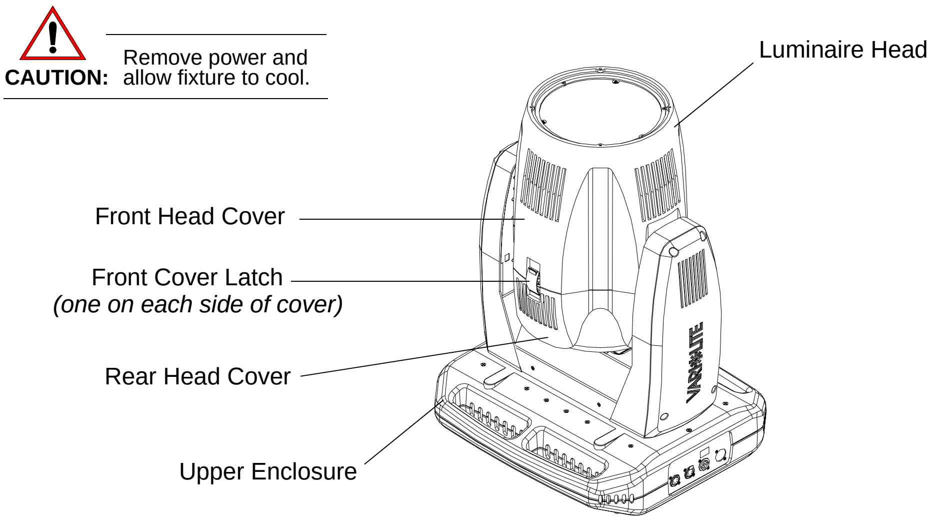


Figure 2-28: VLX Wash Luminaire

Step 3. Remove front head cover by unlatching both head cover latches. Please note that one side of front cover is secured by a safety tether. Locate clip attached to luminaire and unclip tether.

Step 4. Gently slide front head cover over optic assembly and set aside.

Step 5. Remove protective EMI shields from around optics assembly as shown in Figure 2-29 as follows:

WARNING: On one EMI shield, it is imperative to identify the ambient temperature sensor that protrudes through the EMI protective shield (it is on the opposite side where the front cover safety tether connects. When this shield is removed, great care has to employed not to damage the sensor.

a. At EMI shield (side where front cover safety tether connects), remove all screws securing cover. Be sure to note locations of removed screws in relation to EMI shield.

b. Remove shield and set aside.

c. At other EMI shield (side with ambient temperature sensor), remove all screws securing cover. Be sure to note locations of removed screws in relation to EMI shield.

d. Carefully work shield over ambient temperature sensor taking care not to snag or pull sensor. Once shield is clear of sensor, set shield aside.

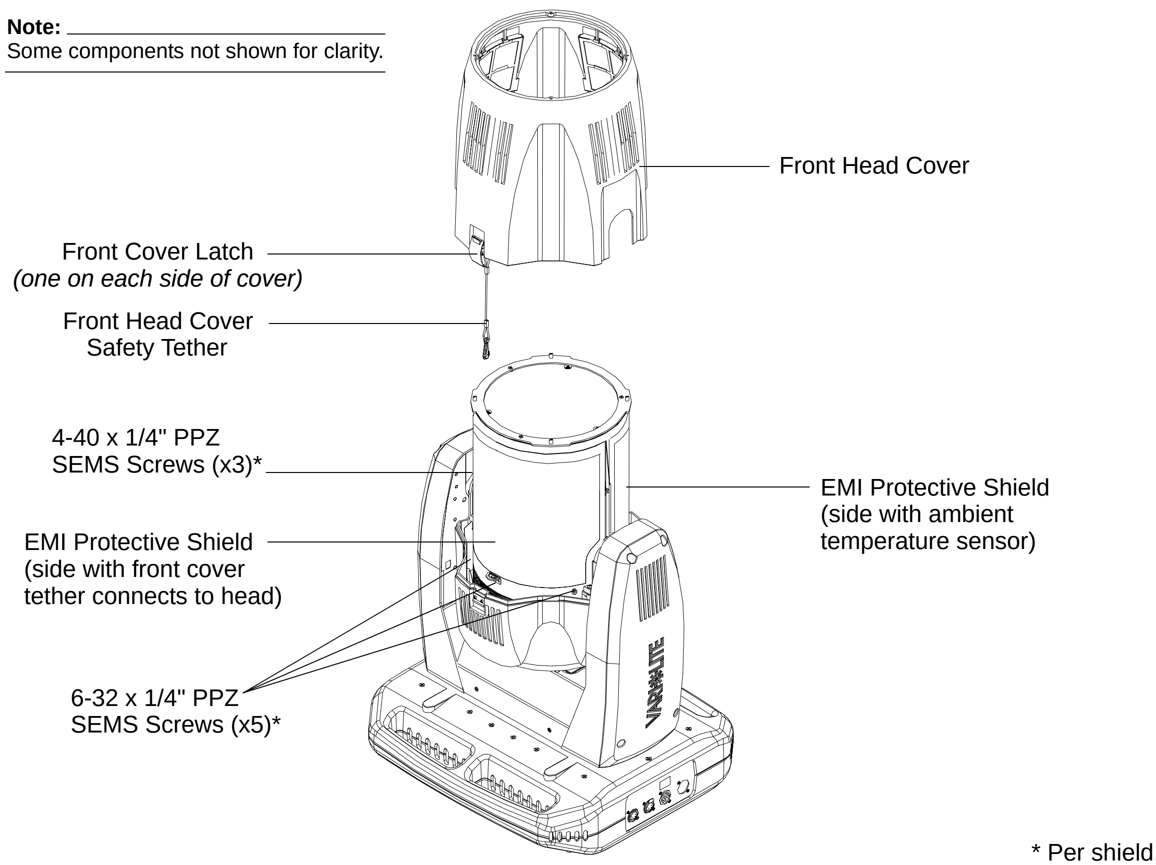


Figure 2-29: Front Head Cover and EMI Shields Removal.

Step 6. Disengage tilt lock and rotate luminaire head 90-degrees.

Step 7. At inside of rear head cover, remove eight #6 x 1/4" PPZ Plastic Threading Screws.

Note: At reinstalling rear head cover, be careful not to over tighten plastic threading screws (plastic mounting holes may crack).

Step 8. At rear of head assembly (as shown in Figure 2-30), remove four 8-32 x 3/8" PPB SEMS screws securing grill assembly. Noting orientation (before removal) remove rear grill.

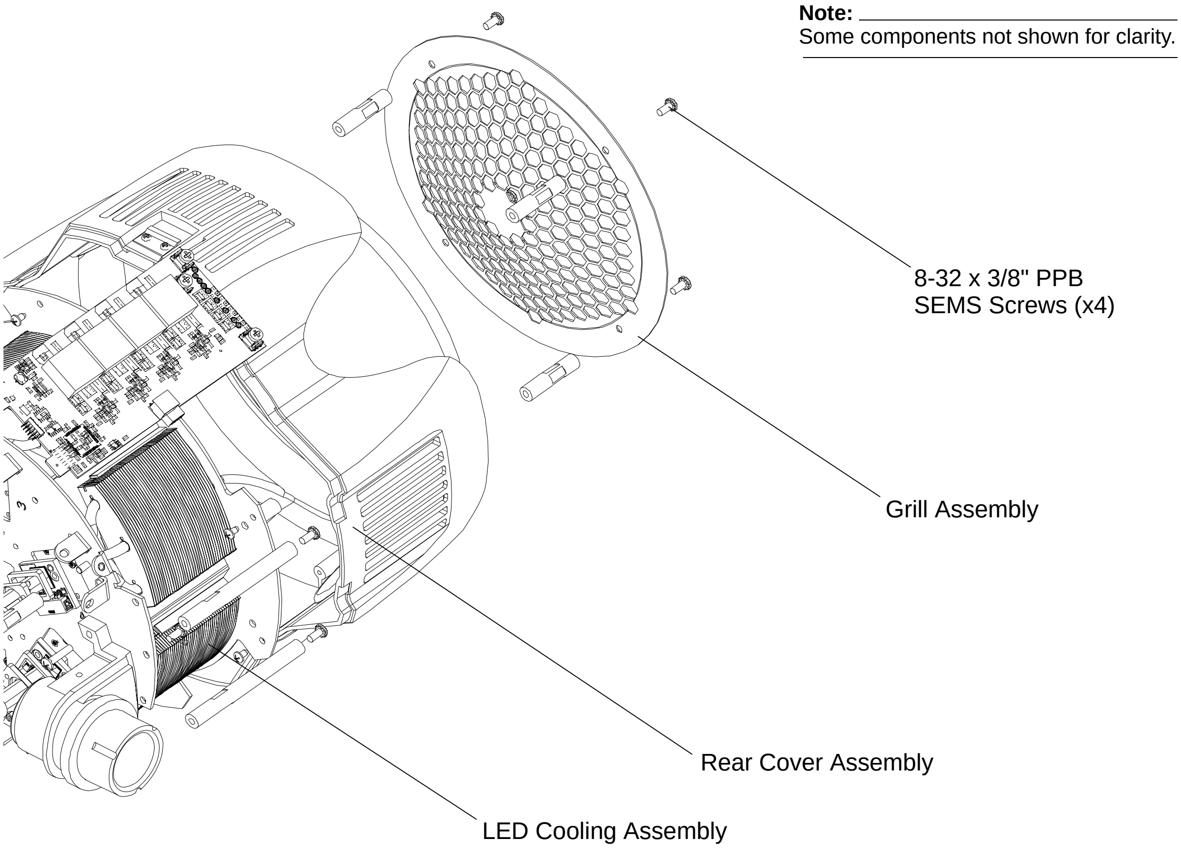


Figure 2-30: VLX Wash Grill Assembly

Step 9. As shown in Figure 2-31, perform the following:

a. Remove four 8-32 x 3/8" PPZ SEMS screws securing rear of cooling system (closeout plate) to luminaire head assembly.

b. Remove six 6-32 x 10mm PPB screws securing closeout plate to cooling assembly.

c. Remove closeout plate.

d. Disconnect fan from LED driver noting routing of fan wiring harness.

e. Slide Fan assembly from LED cooling assembly (radiator).

f. Remove four T3 x 18mm screws mounting fan to tray.

g. Remove fan from tray, noting fan orientation.

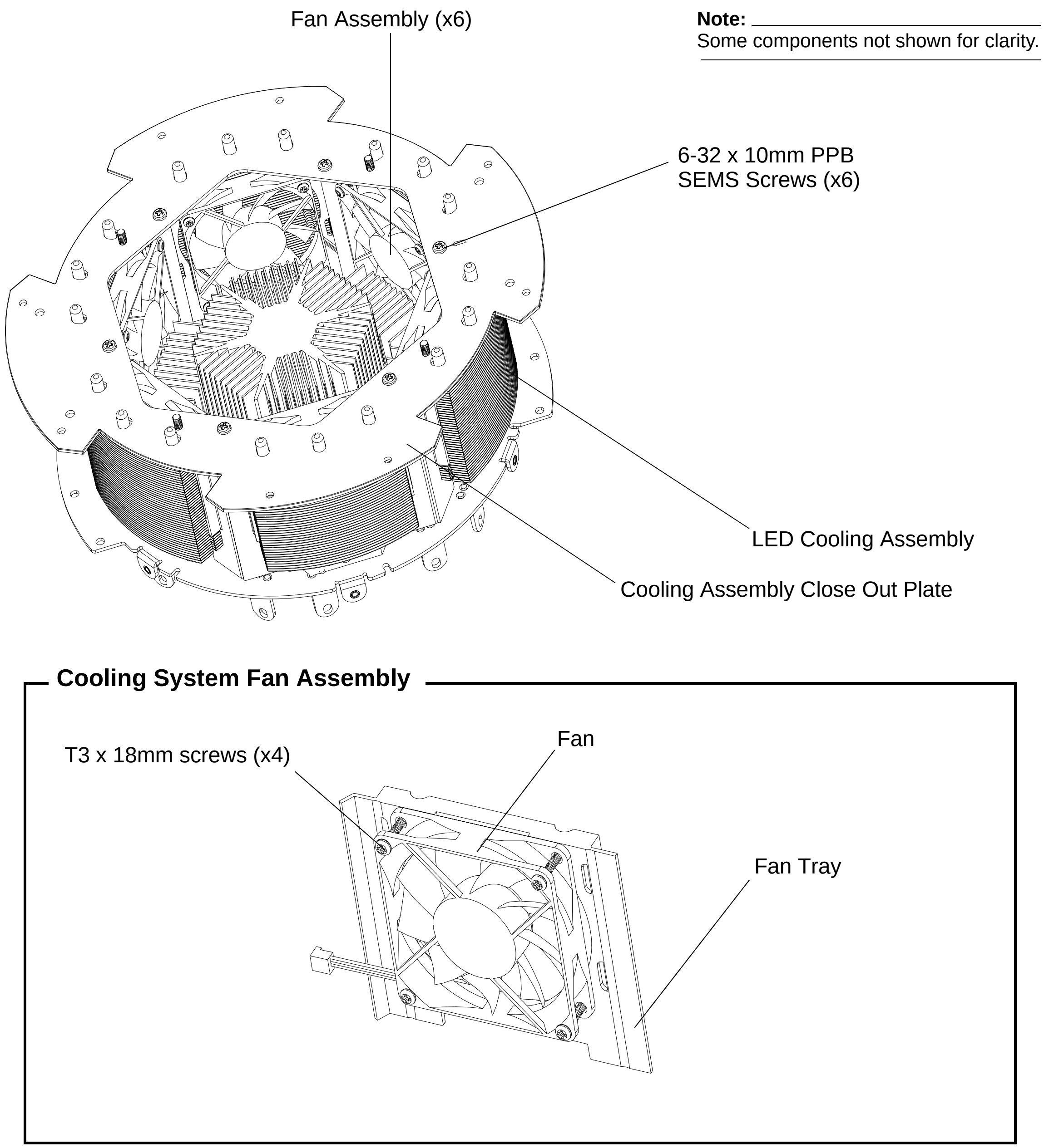


Figure 2-31: LED Cooling System Fan Assembly Removal

Step 10. Reassemble luminaire by following Steps 3 through 9 in reverse order.

Step 11. Power luminaire and test.

CPC Lens Assembly

Tools:

- #2 Phillips screwdriver
- Slotted Screwdriver

WARNING: Ensure that power is completely removed from luminaire before attempting any work. Always wear eye protection and proper gloves when performing this procedure.

To remove and replace CPC lens assembly:

Step 1. Remove power from luminaire and allow unit to completely cool.

Step 2. Carefully set luminaire on upper enclosure, rotate head as shown in Figure 2-32, and engage tilt lock.

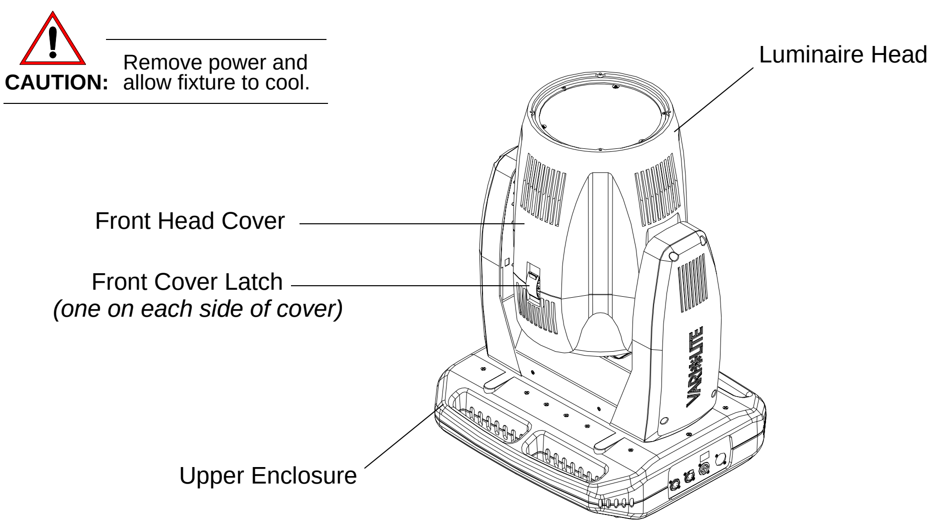


Figure 2-32: VLX Wash Luminaire

Step 3. Remove front head cover by unlatching both head cover latches. Please note that one side of front cover is secured by a safety tether. Locate clip attached to luminaire and unclip tether.

Step 4. Gently slide front head cover over optic assembly and set aside.

Step 5. Remove protective EMI shields from around optics assembly as shown in Figure 2-33 as follows:

WARNING: On one EMI shield, it is imperative to identify the ambient temperature sensor that protrudes through the EMI protective shield (it is on the opposite side where the front cover safety tether connects. When this shield is removed, great care has to employed not to damage the sensor.

a. At EMI shield (side where front cover safety tether connects), remove all screws securing cover. Be sure to note locations of removed screws in relation to EMI shield.

b. Remove shield and set aside.

c. At other EMI shield (side with ambient temperature sensor), remove all screws securing cover. Be sure to note locations of removed screws in relation to EMI shield.

d. Carefully work shield over ambient temperature sensor taking care not to snag or pull sensor. Once shield is clear of sensor, set shield aside.

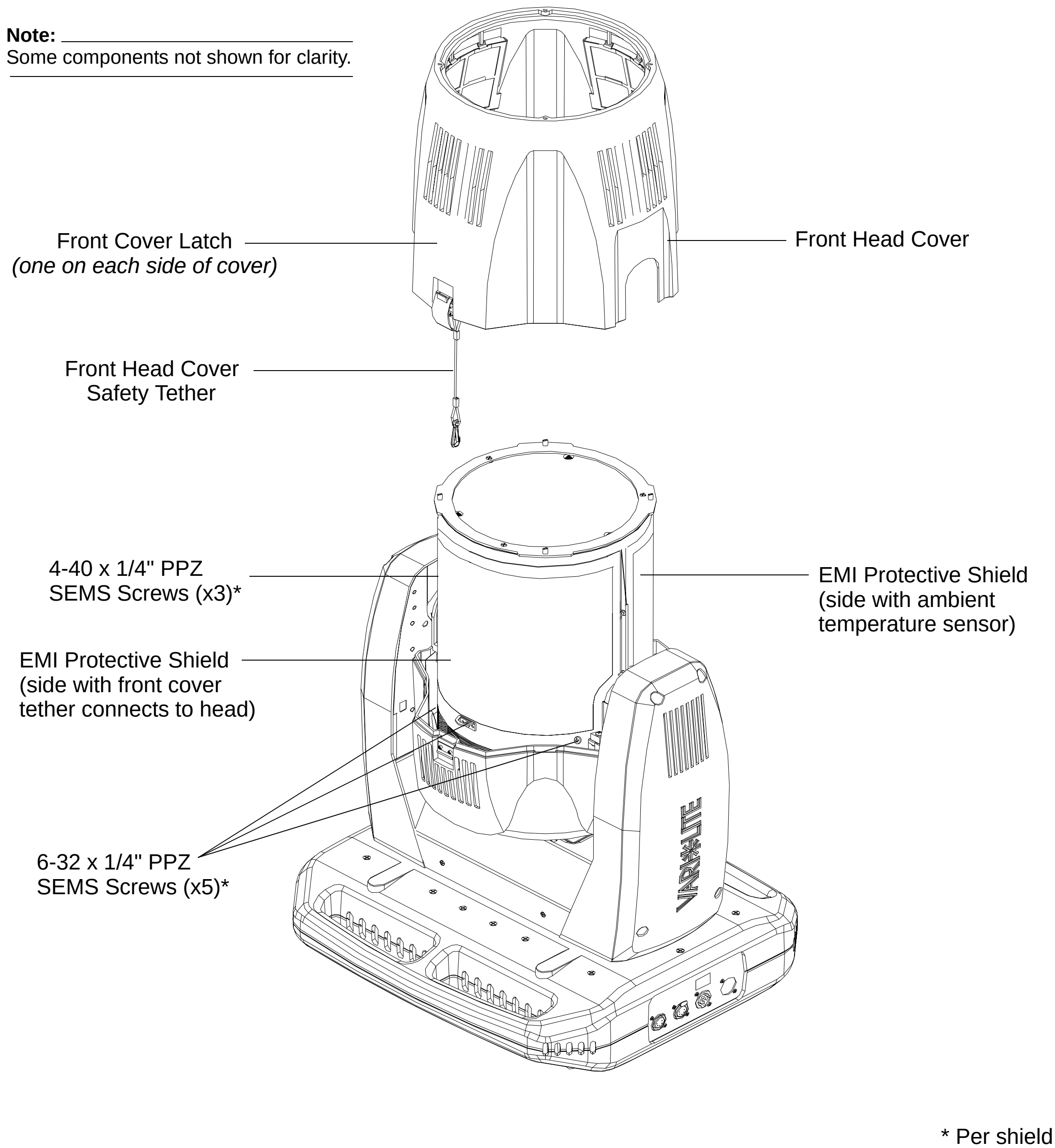


Figure 2-33: Front Head Cover and EMI Shields Removal

Step 6. At head assembly, as shown in Figure 2-34, remove front lens assembly as follows:

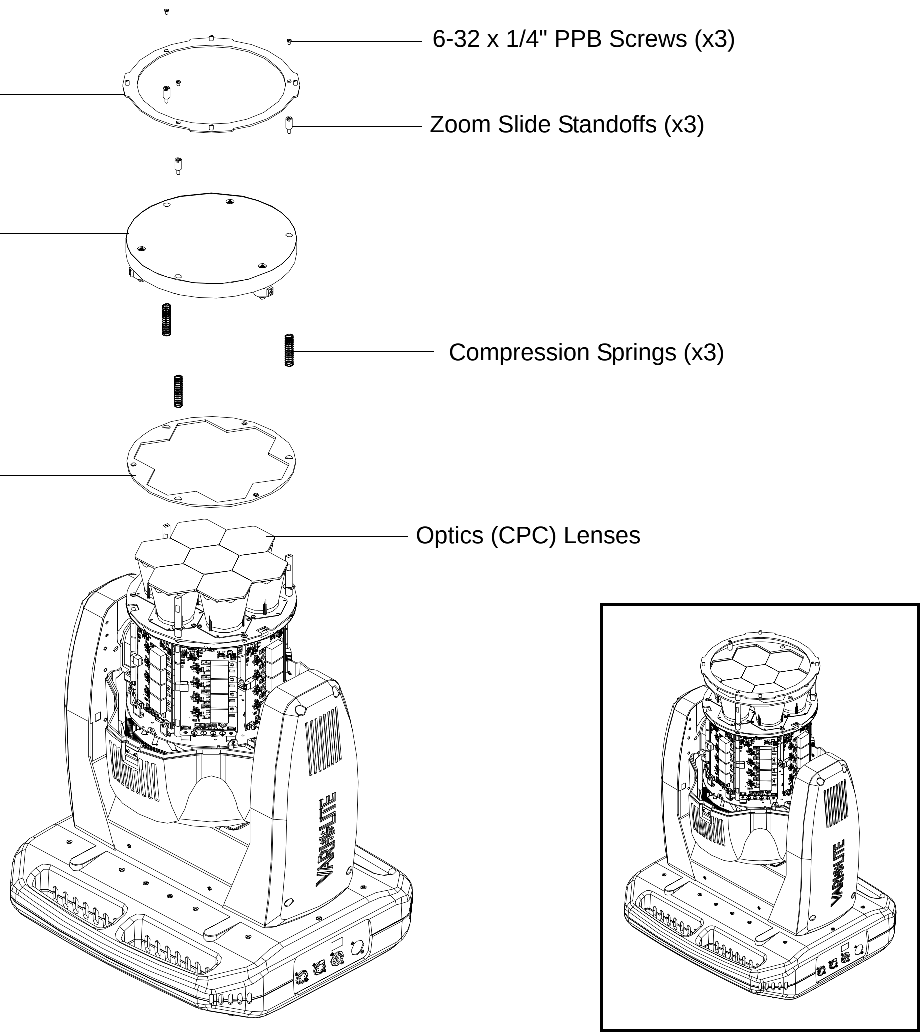


Figure 2-34: Front Lens Removal

Note: Before proceeding, please note orientation of both front lens ring and front lens assembly. They must be mounted in their original orientation/position for the front head cover to reinstall properly.

a. Remove three screws securing front lens and lens ring. Set components aside.

b. Note zoom motor wiring and routing. Disconnect wiring from zoom motors to motherboard.

c. At front lens, loosen and remove and remove three stand-offs. Remove lens and place lens on a clean, lint free cloth as not to damage or scratch lens.

d. Remove three compression springs and optic ring plate. Set components aside.

Note: To remove and replace center CPC lens assembly, it will be necessary to remove outer lenses to gain proper access.

Step 7. As shown in Figure 2-35, remove two 4-40 x 1/4" LG PPZ SEMS screws.

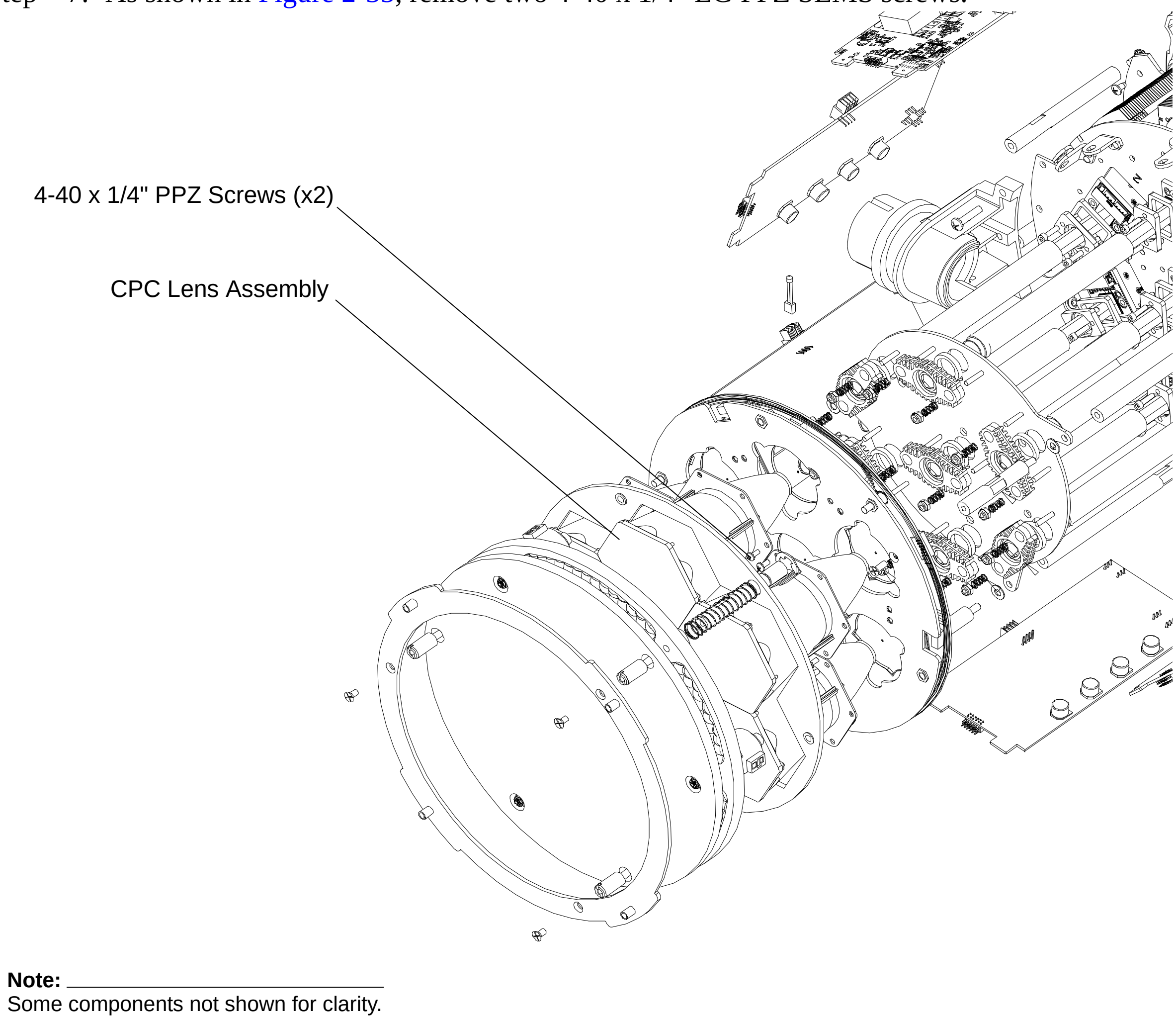


Figure 2-35: CPC Lens Assembly Removal

WARNING: Use extreme care when handling as not to scratch the fresnel lens.

Step 8. Carefully remove CPC Lens Assembly

Step 9. Replace CPC lens assembly by performing Steps 3 through 8 in reverse order. Note, when installing, insure CPC lens sets down into top light pipe support.

Step 10. Disengage tilt lock.

Step 11. Power luminaire and test.

Light Pipe Assembly

Tools:

- #2 Phillips screwdriver
- Slotted Screwdriver
- 1/4" Nutdriver

WARNING: Ensure that power is completely removed from luminaire before attempting any work. Always wear eye protection and proper gloves when performing this procedure.

To remove and replace light pipe assembly:

Step 1. Remove power from luminaire and allow unit to completely cool.

Step 2. Carefully set luminaire on upper enclosure, rotate head as shown in Figure 2-36, and engage tilt lock.

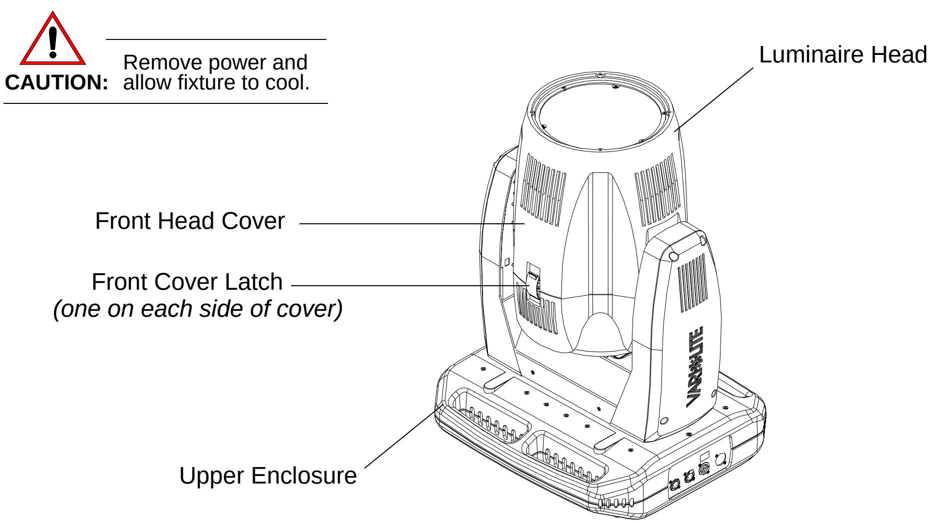


Figure 2-36: VLX Wash Luminaire

Step 3. Remove corresponding CPC lens assembly as described in procedure for “CPC Lens Assembly” on page 49.

Step 4. As indicated in Figure 2-37, using 1/4" nutdriver, remove two #4 nylock nuts from top light pipe support.

Step 5. Remove springs under nylock nuts.

Step 6. Remove top light pipe support.

WARNING: Note that light pipe must be handled with extreme care or not be damaged. All fingerprints, grease, smudges, etc. must be removed. Any damage to light pipe and it should be replaced with new.

Step 7. USING EXTREME CAUTION AND CARE, remove light pipe from tube.

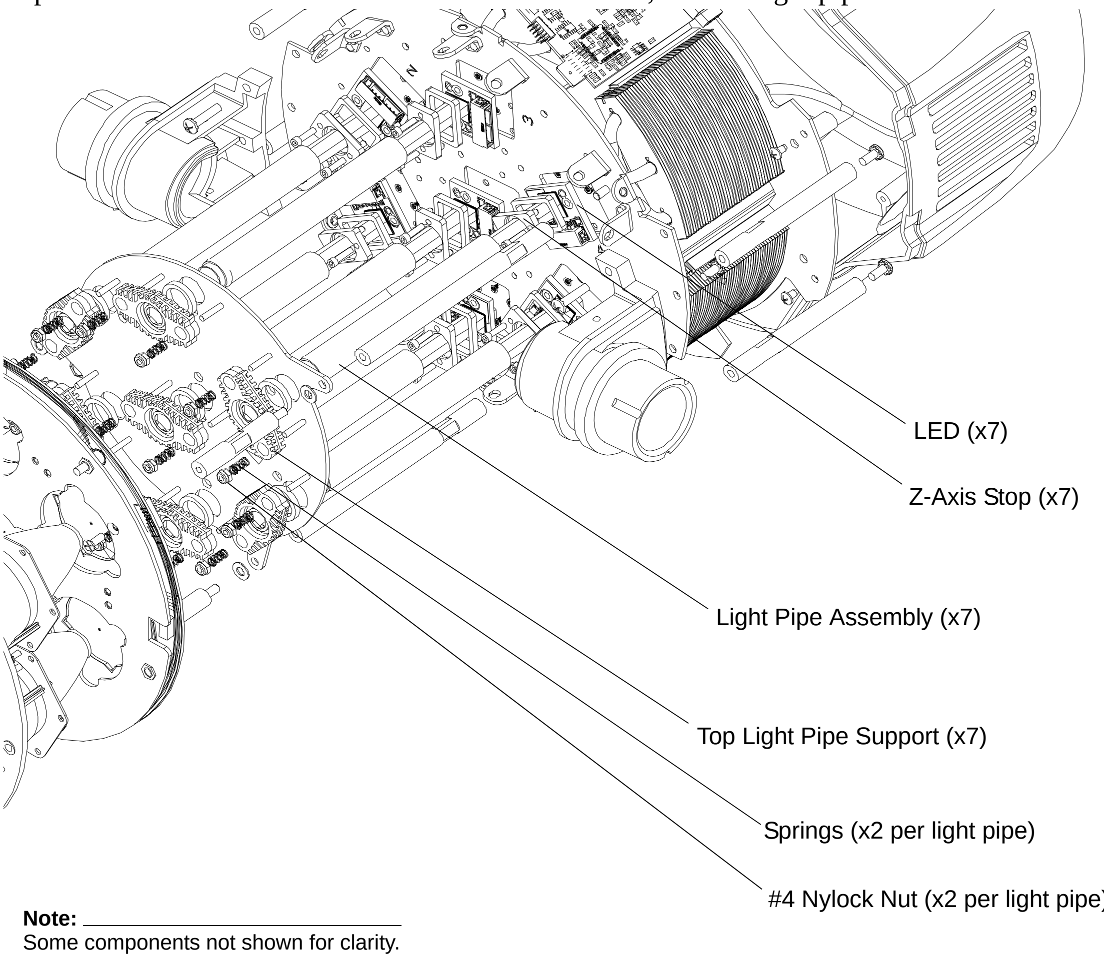


Figure 2-37: Light Pipe Assembly Removal

Step 8. When replacing, ensure that light pipe is fully seated into Z-Axis Stop at LED.

Step 9. When installing top light pipe support, ensure that hex light pipe is seated correctly into support.

Step 10. Tighten nylock nuts so that top of threads are flush with nylock nut.

Step 11. Reassemble luminaire.

Step 12. Disengage tilt lock.

Step 13. Power luminaire and test.

LED Chip Assembly

Tools:

- #2 Phillips screwdriver
- Slotted Screwdriver
- 1/4" Nutdriver
- Flat (tweaker) screwdriver
- 3/32" long hex driver
- Precision torque wrench (capable of 80-in oz.)

WARNING: Ensure that power is completely removed from luminaire before attempting any work.

Note: After replacing a LED chip, recalibration of the fixture is required. Please contact Vari-Lite technical support at VL.Technician@philips.com or +1.214.647.7880 for details.

To remove and replace LED chip assembly:

Step 1. Remove power from luminaire and allow unit to completely cool.

Step 2. Carefully set luminaire on upper enclosure, rotate head as shown in Figure 2-38, and engage tilt lock.

CAUTION: Remove power and allow fixture to cool.

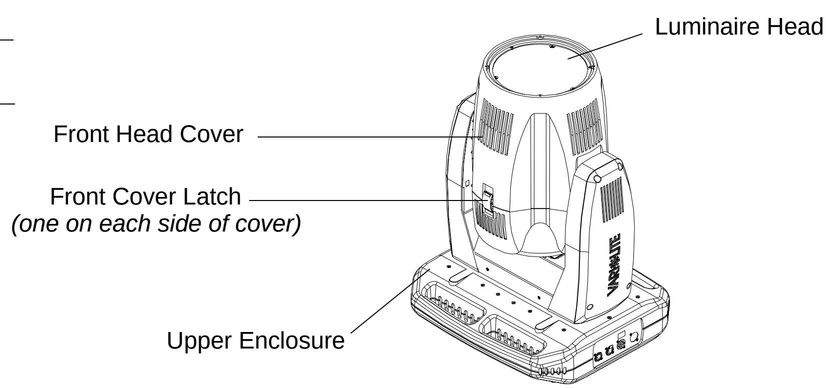


Figure 2-38: VLX Wash Luminaire

WARNING: Note that CPC lens assembly, light pipe, and LEDs must be handled with extreme care or not be damaged. All fingerprints, grease, smudges, etc. must be removed. Any damage to any of these components will require replacement with new.

Step 3. Remove head cover, EMI shields and zoom lens array assembly as described in procedure for "Front Lens Removal and Cleaning" on page 19.

Step 4. Remove corresponding CPC lens assembly as described in procedure for "CPC Lens Assembly" on page 49 and corresponding light pipe assembly as described in procedure for "Light Pipe Assembly" on page 53.

Note: LED number 5 (center LED) will require complete removal of CPC lens and light pipe assemblies in order to remove and replace it.

Step 5. As shown in Figure 2-39, at light pipe tube of LED to be replaced, gently roll black 'O' ring down out of lip at top of tube, using a small flat tweaker screwdriver.

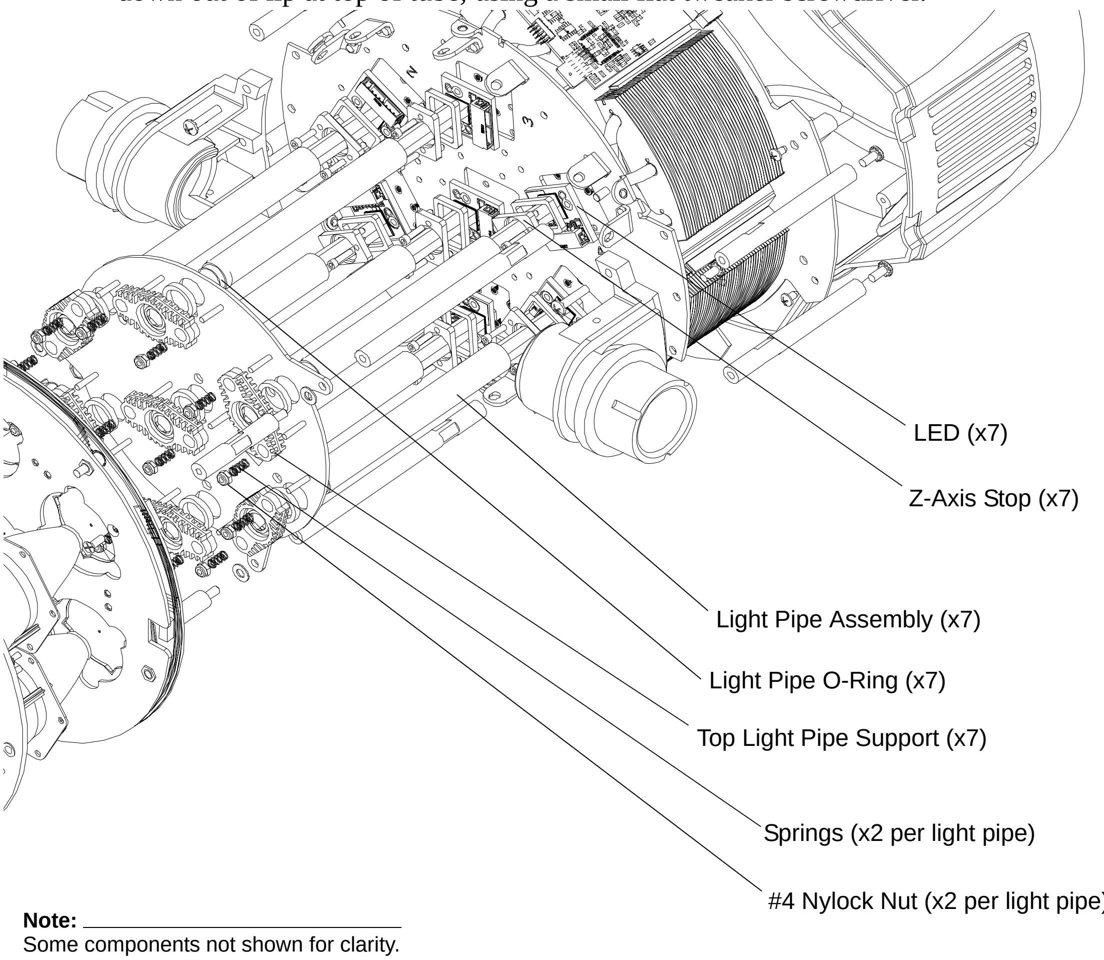


Figure 2-39: LED Assembly Removal

Step 6. Lift tube through support while rolling 'O' ring off bottom of tube.

Step 7. As indicated in Figure 2-40, using long 3/32" hex driver, remove two 4-40 x 0.438" LG SH CAP screws from LED die.

Step 8. The Z-Axis stop and seal will also be removed.

Step 9. Under the LED is a thermal transfer material. If material is torn or damaged, it must be replaced with new.

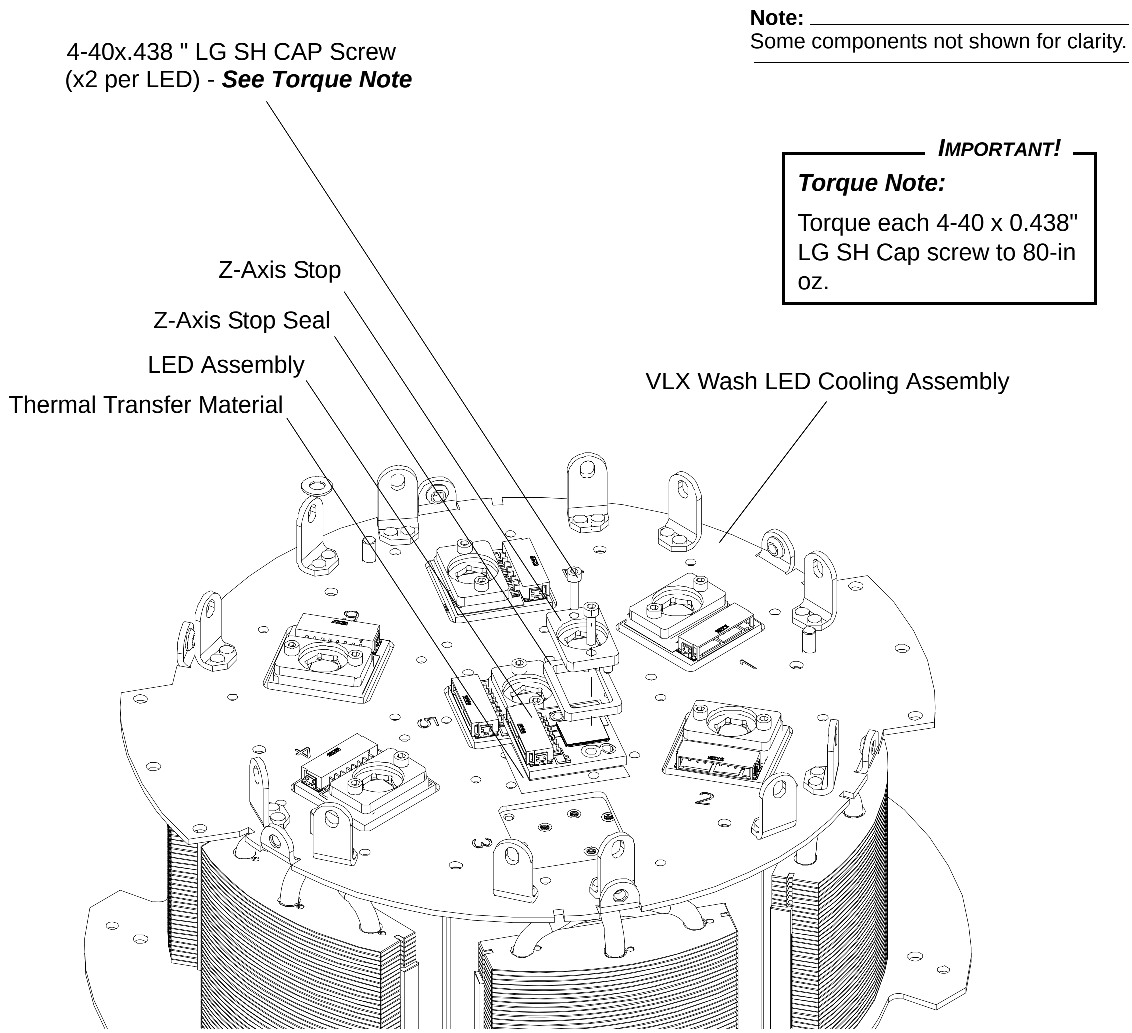


Figure 2-40: LED Assembly Removal & Installation

Note: When replacing, torque 4-40 x 0.438" cap screws to 80-in oz. using a precision torque wrench.

Step 10. Reassemble luminaire.

Note: After replacing a LED chip, recalibration of the fixture is required. Please contact Vari-Lite technical support at VL.Technician@philips.com or +1.214.647.7880 for details.

Step 11. Disengage tilt lock.

Step 12. Power luminaire and test.

Connector Assembly

Tools:

- #2 Phillips screwdriver
- 3/16" Hex wrench

WARNING: Ensure that power is completely removed from luminaire before attempting any work.

To remove and replace connector assembly:

Step 1. Remove power from luminaire by disconnecting power cable, disconnect all DMX cables, and allow unit to completely cool.

Step 2. Carefully lay luminaire on flat, steady surface to have access to bottom cover of upper enclosure and connector assembly side is up. Be sure to rotate head as shown in Figure 2-41.

CAUTION: Remove power and allow fixture to cool.

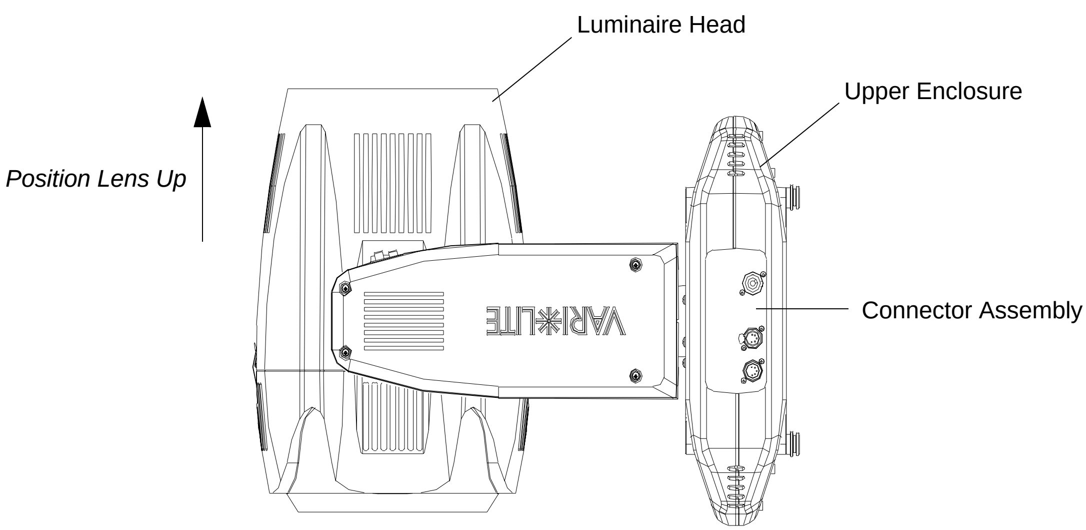


Figure 2-41: VLX Wash Luminaire

Step 3. Using 3/16" hex wrench and as indicated in Figure 2-42, remove four 1/4-20 x 2" CAP SOC screws and two 1/4-20 x 1.5" CAP SOC screws and remove base cover.

Note: Make note of orientation of bottom cover in relation to upper enclosure. It must be reinstalled the same way as it was removed.

Step 4. Remove 8-32 x 1/2" PFB screw in enclosure top cover securing connector assembly.

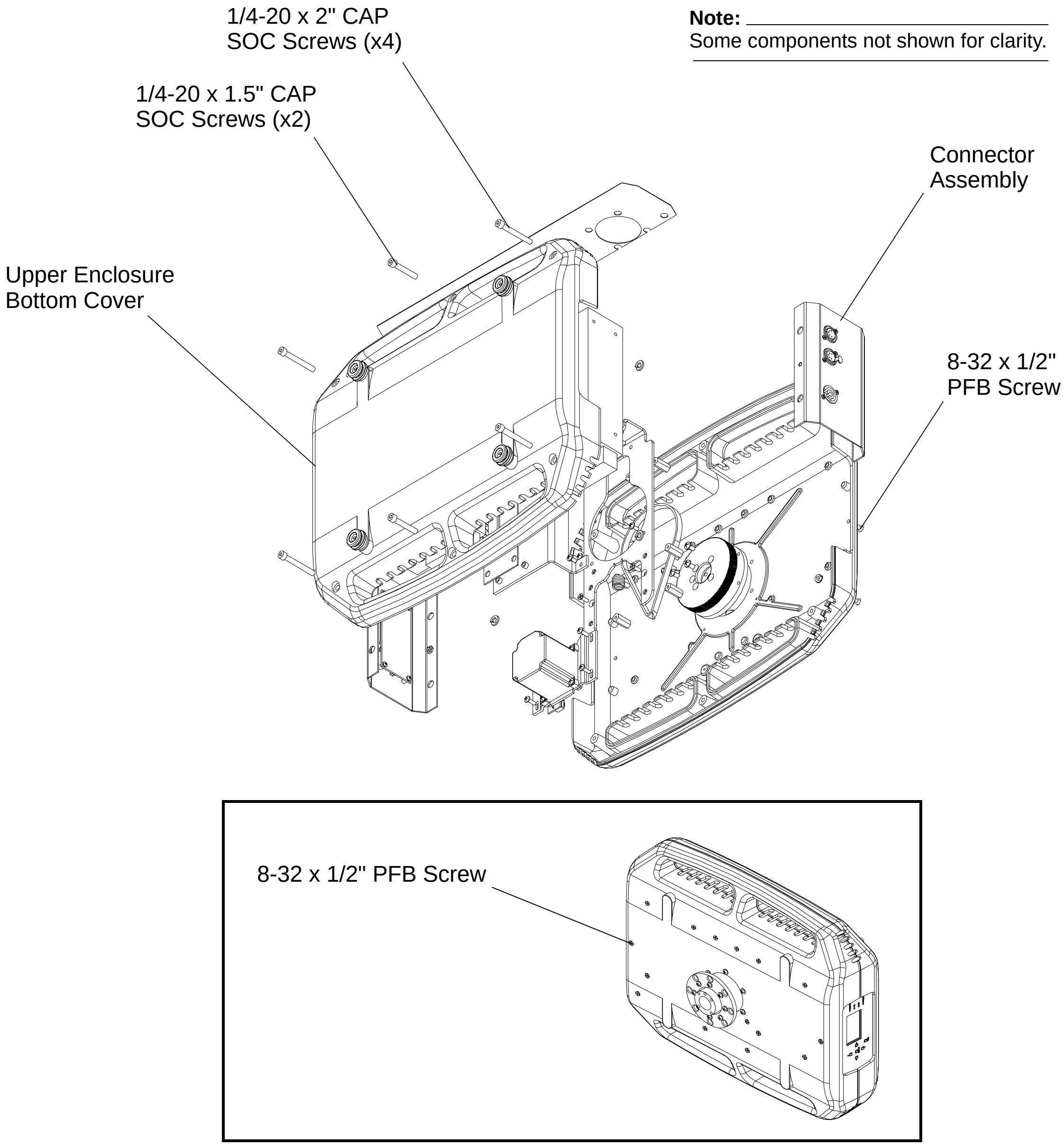


Figure 2-42: VLX Wash Upper Enclosure Connector Assembly

Step 5. Note wiring will be attached to DMX PCB and Input PowerCon. Detach wiring and remove connector assembly.

Step 6. Reinstall by performing Steps 3 through 5 in reverse order.

Step 7. Position luminaire on upper enclosure so head and yoke move freely.

Step 8. Power luminaire and test.

DMX PCB Assembly

Tools:

- #2 Phillips screwdriver
- 3/16" Hex wrench

WARNING: Ensure that power is completely removed from luminaire before attempting any work.

To remove and replace DMX PCB assembly:

Step 1. Remove power from luminaire by disconnecting power cable, disconnect all DMX cables, and allow unit to completely cool.

Step 2. Carefully lay luminaire on flat, steady surface to have access to bottom cover of upper enclosure and connector assembly side is up. Be sure to rotate head as shown in Figure 2-43.

CAUTION: Remove power and allow fixture to cool.

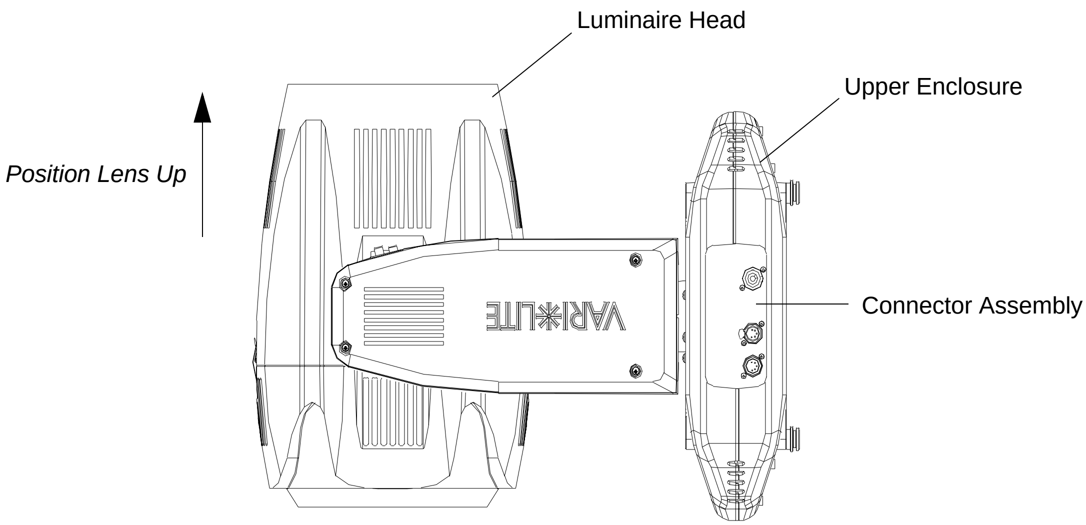


Figure 2-43: VLX Wash Luminaire

Step 3. Using 3/16" hex wrench and as indicated in Figure 2-44, remove four 1/4-20 x 2" CAP SOC screws and two 1/4-20 x 1.5" CAP SOC screws and remove base cover.

Note: Make note of orientation of bottom cover in relation to upper enclosure. It must be reinstalled the same way as it was removed.

Step 4. Remove 8-32 x 1/2" PFB screw in enclosure top cover securing connector assembly.

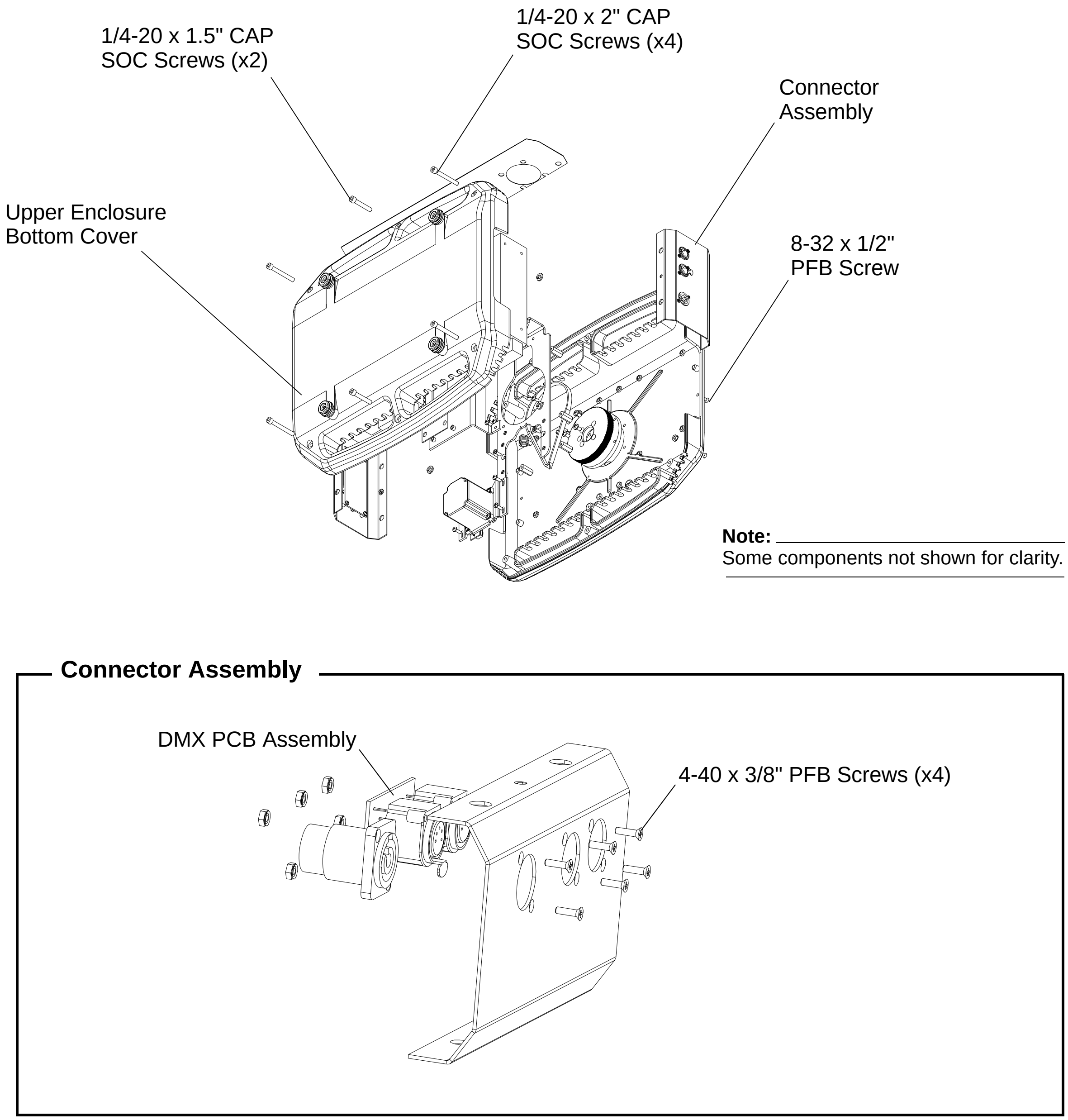


Figure 2-44: VLX Wash Upper Enclosure / DMX PCB Assembly

Step 5. Note wiring will be attached to DMX PCB and Input PowerCon. Detach wiring and remove connector assembly.

Step 6. At connector assembly, remove four 4-40 x 3/8" PFB screws and nuts securing DMX PCB assembly. Remove DMX PCB assembly.

Step 7. Reinstall by performing Steps 3 through 6 in reverse order.

Step 8. Position luminaire on upper enclosure so head and yoke move freely.

Step 9. Power luminaire and test.

PowerCon (AC Input) Connector Assembly

Tools:

- #2 Phillips screwdriver
- 3/16" Hex wrench

WARNING: Ensure that power is completely removed from luminaire before attempting any work.

To remove and replace PowerCon connector assembly:

Step 1. Remove power from luminaire by disconnecting power cable, disconnect all DMX cables, and allow unit to completely cool.

Step 2. Carefully lay luminaire on flat, steady surface to have access to bottom cover of upper enclosure and connector assembly side is up. Be sure to rotate head as shown in Figure 2-45.

CAUTION: Remove power and allow fixture to cool.

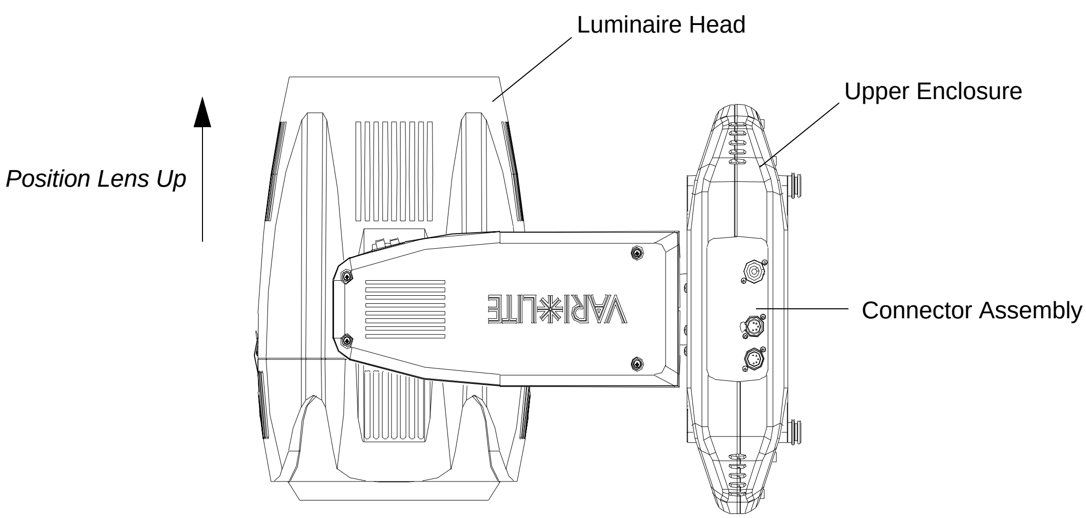
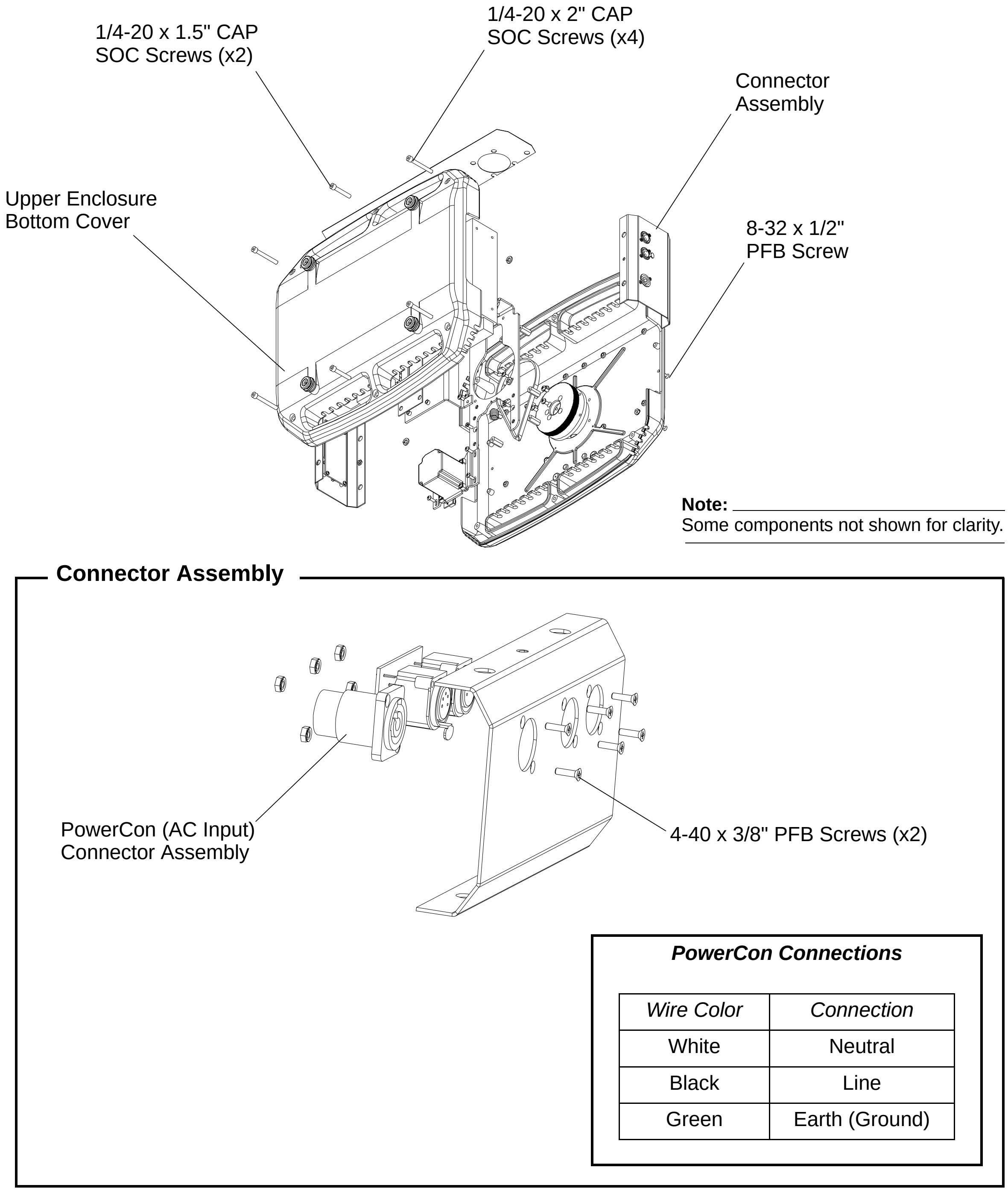


Figure 2-45: VLX Wash Luminaire

Step 3. Using 3/16" hex wrench and as indicated in Figure 2-46, remove four 1/4-20 x 2" CAP SOC screws and two 1/4-20 x 1.5" CAP SOC screws and remove base cover.

Note: Make note of orientation of bottom cover in relation to upper enclosure. It must be reinstalled the same way as it was removed.

Step 4. Remove 8-32 x 1/2" PFB screw in enclosure top cover securing connector assembly.



PowerCon Connections

Wire Color	*Connection*
White	Neutral
Black	Line
Green	Earth (Ground)

Figure 2-46: VLX Wash Upper Enclosure / PowerCon Connector Assembly

Step 5. Note wiring will be attached to DMX PCB and Input PowerCon. Detach wiring and remove connector assembly.

Step 6. At connector assembly, remove two 4-40 x 3/8" PFB screws and nuts securing PowerCon connector assembly. Remove PowerCon connector assembly.

Step 7. At PowerCon connector, disconnect three Faston connectors:

a. White wire - neutral

b. Black wire - line

c. Green wire - earth ground

Step 8. Reinstall by performing Steps 3 through 7 in reverse order.

Step 9. Position luminaire on upper enclosure so head and yoke move freely.

Step 10. Power luminaire and test.

LCD Display Assembly

Tools:

- #2 Phillips screwdriver
- 3/16" Hex wrench

WARNING: Ensure that power is completely removed from luminaire before attempting any work.

To remove and replace LCD Display assembly:

Step 1. Remove power from luminaire by disconnecting power cable, disconnect all DMX cables, and allow unit to completely cool.

Step 2. Carefully lay luminaire on flat, steady surface to have access to bottom cover of upper enclosure and LCD Display Assembly side is up. Be sure to rotate head as shown in Figure 2-47.

CAUTION: Remove power and allow fixture to cool.

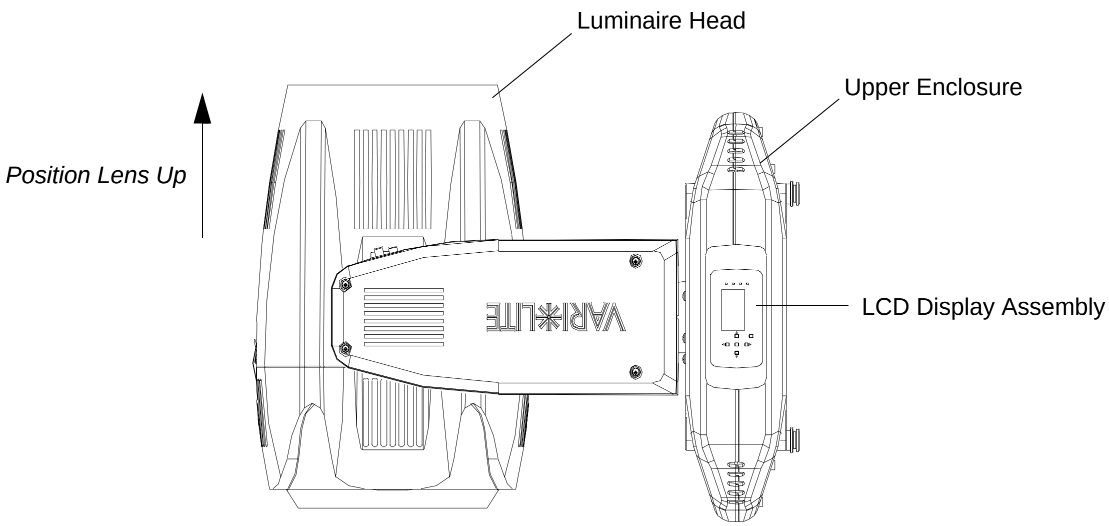


Figure 2-47: VLX Wash Luminaire

Step 3. Using 3/16" hex wrench and as indicated in Figure 2-48, remove four 1/4-20 x 2" CAP SOC screws and two 1/4-20 x 1.5" CAP SOC screws and remove base cover.

Note: Make note of orientation of bottom cover in relation to upper enclosure. It must be reinstalled the same way as it was removed.

Step 4. Remove 8-32 x 1/2" PFB screw in enclosure top cover securing LCD Display assembly.

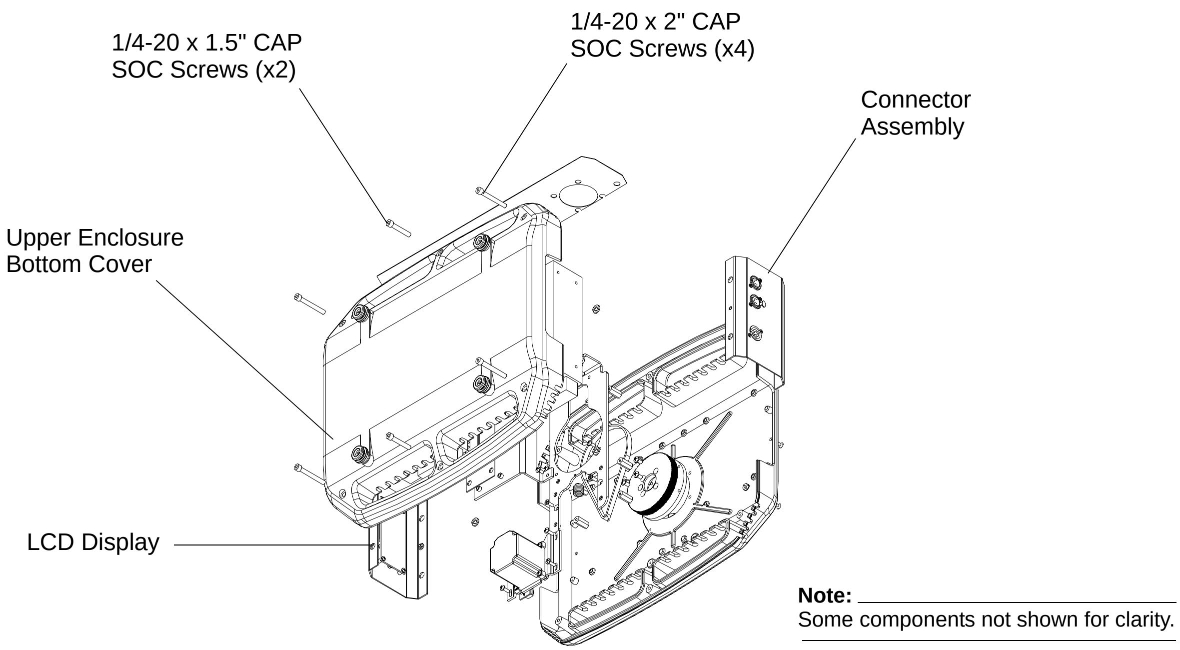


Figure 2-48: VLX Wash Upper Enclosure LCD Display Assembly

Step 5. Note wiring will be attached to LCD Display assembly. Detach wiring and remove assembly.

Step 6. Reinstall by performing Steps 3 through 5 in reverse order.

Step 7. Position luminaire on upper enclosure so head and yoke move freely.

Step 8. Power luminaire and test.

LCD Display PCB Assembly

Tools:

- #2 Phillips screwdriver
- 3/16" Hex wrench

WARNING: Ensure that power is completely removed from luminaire before attempting any work.

To remove and replace LCD Display PCB assembly:

Step 1. Remove power from luminaire by disconnecting power cable, disconnect all DMX cables, and allow unit to completely cool.

Step 2. Carefully lay luminaire on flat, steady surface to have access to bottom cover of upper enclosure and LCD Display Assembly side is up. Be sure to rotate head as shown in Figure 2-49.

CAUTION: Remove power and allow fixture to cool.

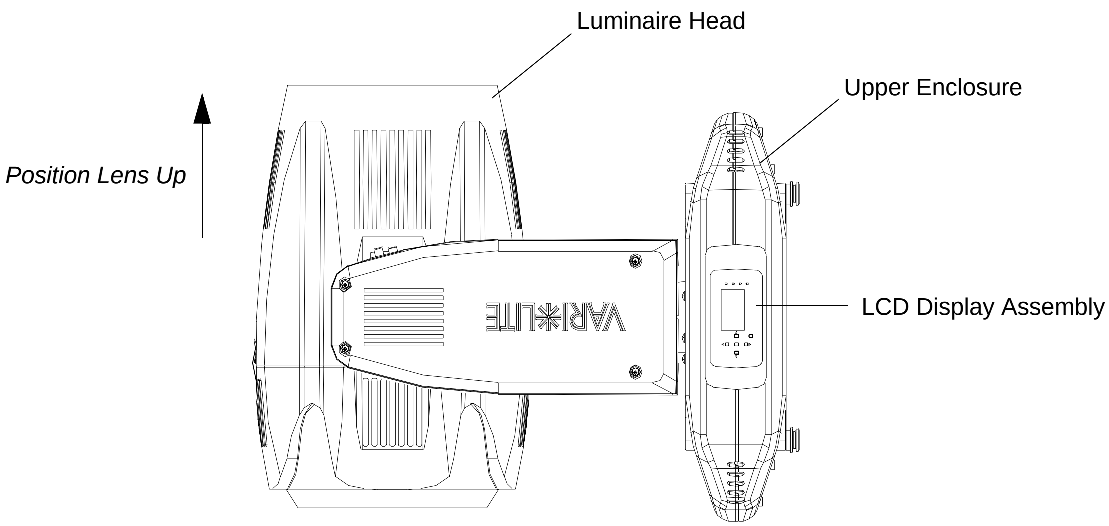


Figure 2-49: VLX Wash Luminaire

Step 3. Using 3/16" hex wrench and as indicated in Figure 2-50, remove four 1/4-20 x 2" CAP SOC screws and two 1/4-20 x 1.5" CAP SOC screws and remove base cover.

Note: Make note of orientation of bottom cover in relation to upper enclosure. It must be reinstalled the same way as it was removed.

Step 4. Remove 8-32 x 1/2" PFB screw in enclosure top cover securing LCD Display assembly.

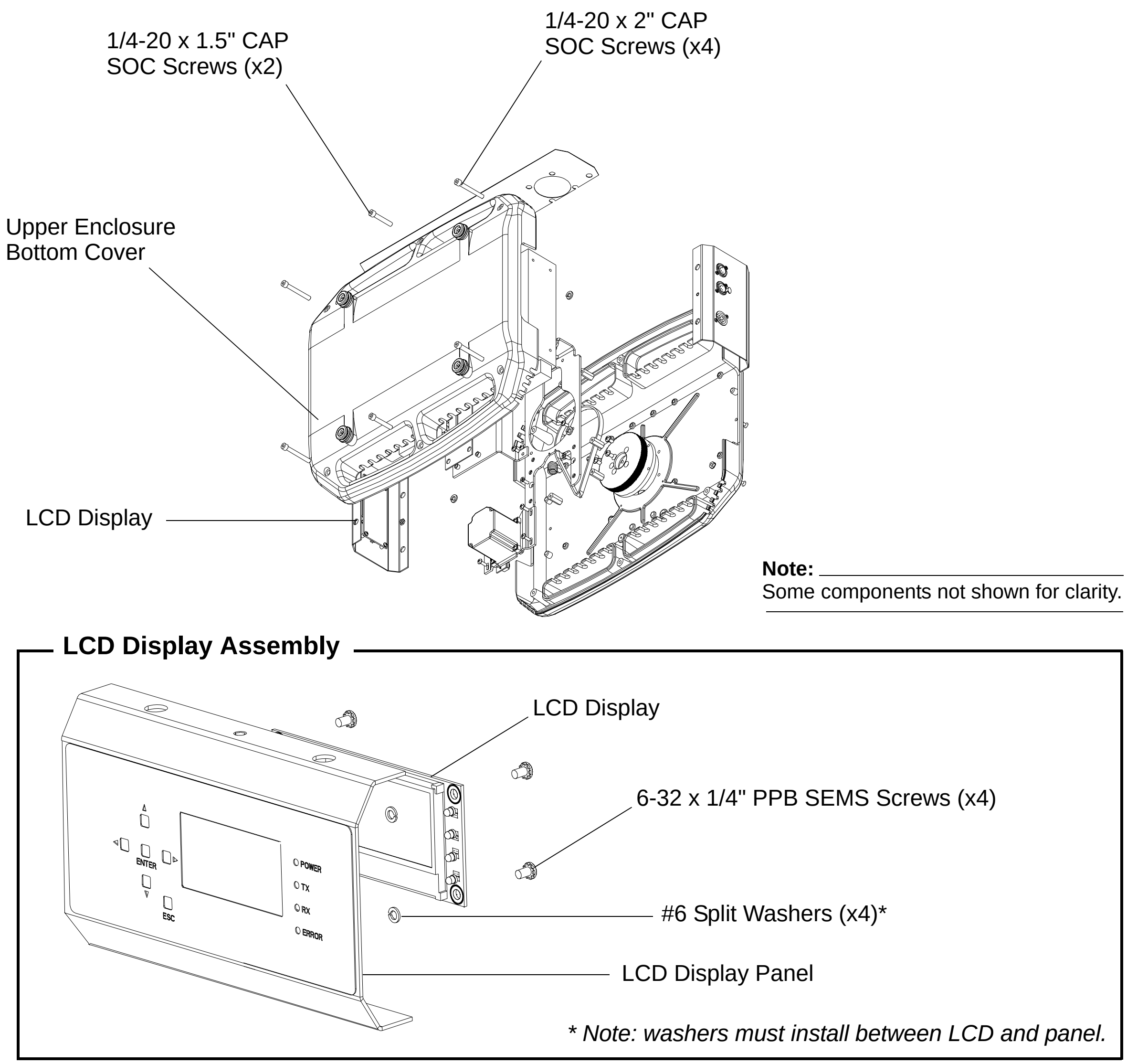


Figure 2-50: VLX Wash Upper Enclosure / LCD Display Assembly

Step 5. Note wiring will be attached to LCD Display assembly. Detach wiring and remove assembly.

Step 6. At LCD Display assembly, disconnect Display Com (connector J4) and Power Supply Com (connector J3) from assembly.

Step 7. Remove four 6-32 x 1/4" PPB SEMS screws securing LCD Display to assembly. Note location of four #6 split washers. They must be reinstalled in same position as noted in Figure 2-50.

Step 8. Reinstall be performing Steps 3 through 7 in reverse order.

Step 9. Position luminaire on upper enclosure so head and yoke move freely.

Step 10. Power luminaire and test.

Fuse Replacement (Power Distribution Assembly)

Tools:

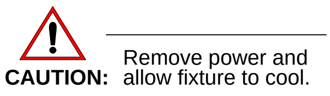
- #2 Phillips screwdriver
- 3/16" Hex wrench

WARNING: Ensure that power is completely removed from luminaire before attempting any work.

To remove and replace fuses:

Step 1. Remove power from luminaire by disconnecting power cable, disconnect all DMX cables, and allow unit to completely cool.

Step 2. Carefully lay luminaire on flat, steady surface to have access to bottom cover of upper enclosure. Be sure to rotate head as shown in Figure 2-51.



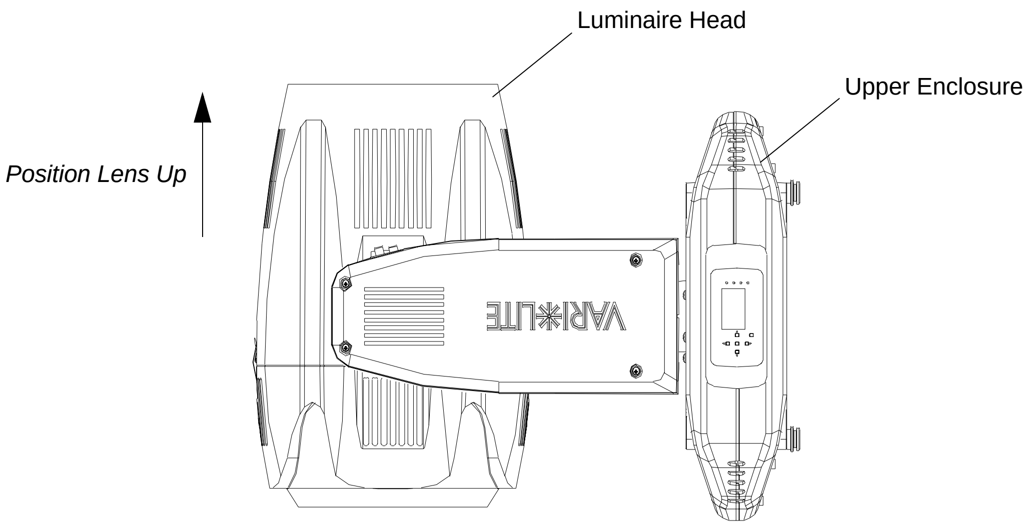


Figure 2-51: VLX Wash Luminaire

Step 3. Using 3/16" hex wrench and as indicated in Figure 2-52, remove four 1/4-20 x 2" CAP SOC screws and two 1/4-20 x 1.5" CAP SOC screws and remove base cover.

Note: Make note of orientation of bottom cover in relation to upper enclosure. It must be reinstalled the same way as it was removed.

Step 4. As shown in Figure 2-52, locate blown fuse and replace.

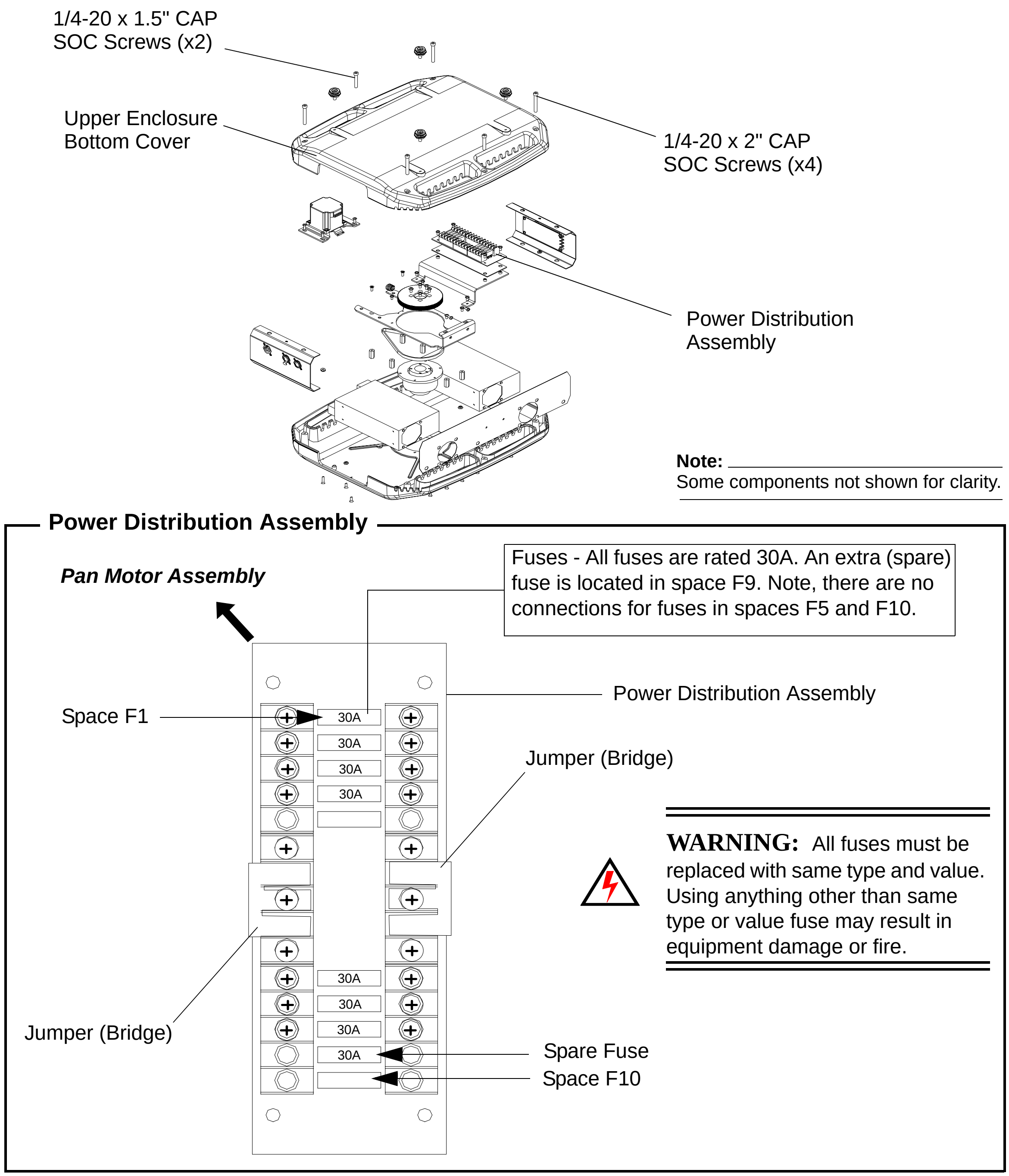


Figure 2-52: VLX Wash Upper Enclosure / Fuse Replacement

Step 5. Reinstall upper enclosure bottom cover.

Step 6. Position luminaire on upper enclosure so head and yoke move freely.

Step 7. Power luminaire and test.

Power Distribution Assembly

Tools:

- #2 Phillips screwdriver
- 3/16" Hex wrench

WARNING: Ensure that power is completely removed from luminaire before attempting any work.

To remove and replace power distribution board:

Step 1. Remove power from luminaire by disconnecting power cable, disconnect all DMX cables, and allow unit to completely cool.

Step 2. Carefully lay luminaire on flat, steady surface to have access to bottom cover of upper enclosure. Be sure to rotate head as shown in Figure 2-53.

CAUTION: Remove power and allow fixture to cool.

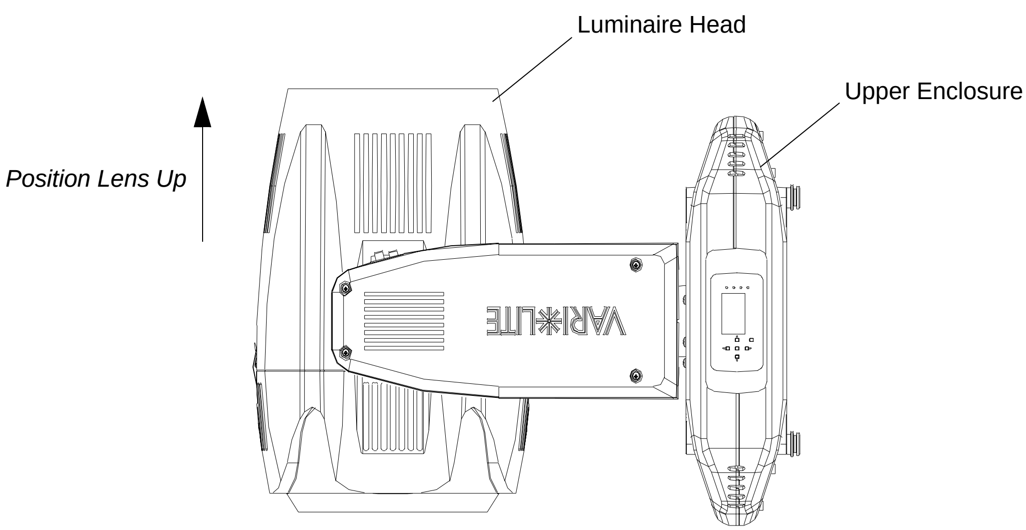
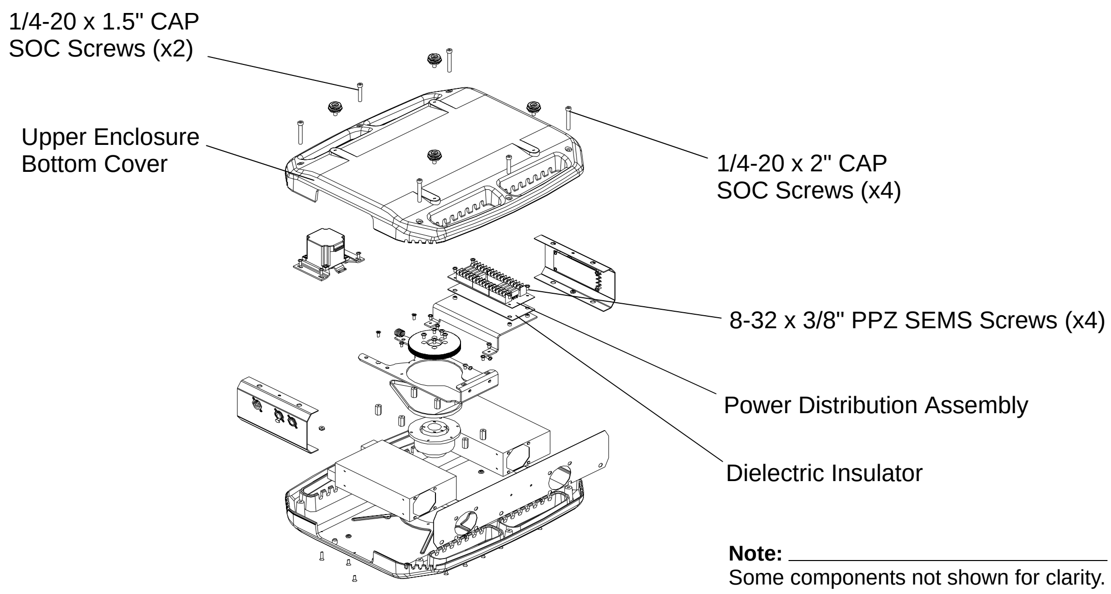


Figure 2-53: VLX Wash Luminaire

Step 3. Using 3/16" hex wrench and as indicated in Figure 2-54, remove four 1/4-20 x 2" CAP SOC screws and two 1/4-20 x 1.5" CAP SOC screws and remove base cover.

Note: Make note of orientation of bottom cover in relation to upper enclosure. It must be reinstalled the same way as it was removed.

Step 4. Note all wiring connected to Power Distribution Assembly as shown in Figure 2-54.



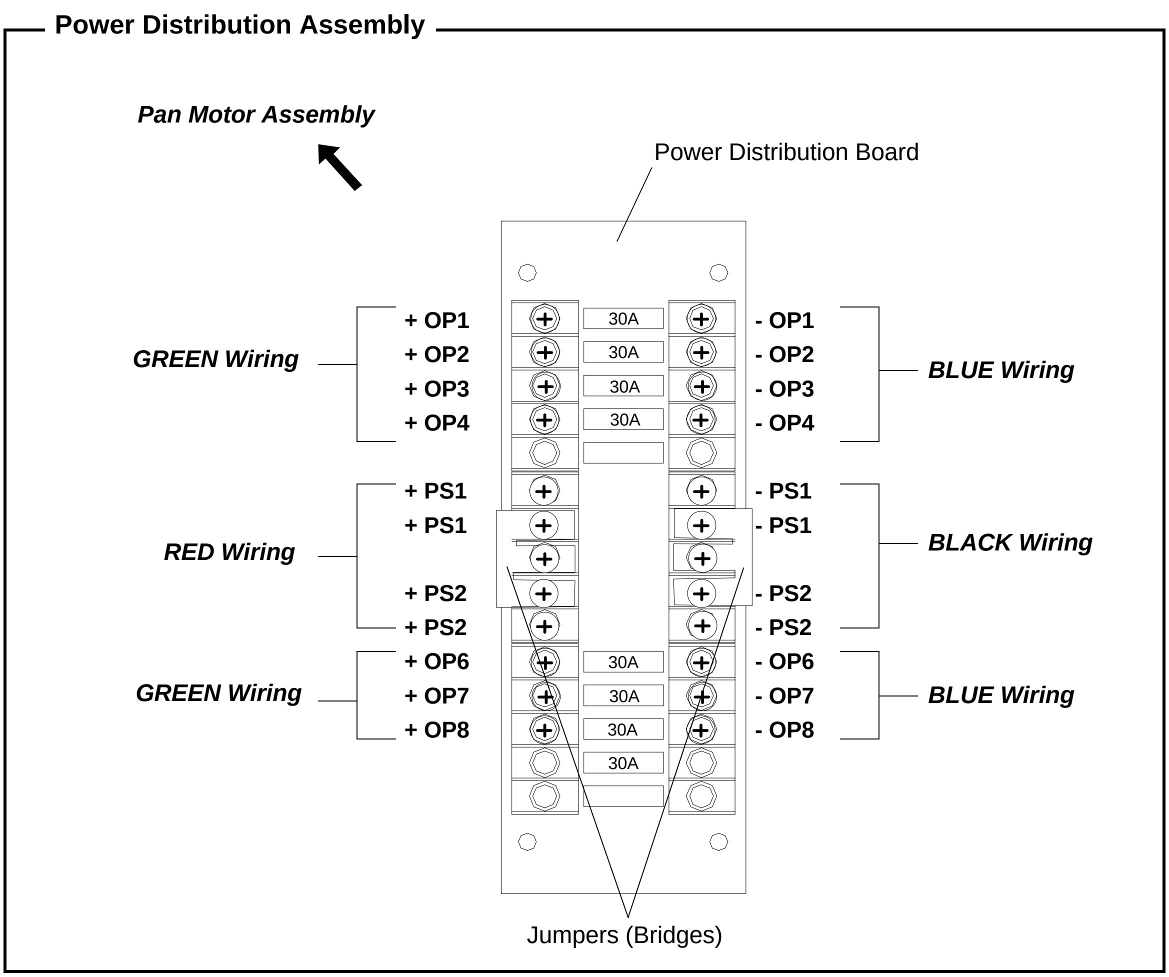


Figure 2-54: VLX Wash Upper Enclosure / Power Distribution Assembly

Step 5. Disconnect wiring from power distribution assembly.

Step 6. Remove four 8-32 x 3/8" PPZ SEMS screws and remove power distribution board.

Step 7. There is a dielectric insulator underneath the power distribution board. If this insulator is damaged, it must be replaced.

Step 8. Install replacement power distribution board to assembly. Make sure dielectric insulator is properly positioned underneath board.

Step 9. Reconnect all wiring:

Board Connection	Wire Label	Wire Color	Notes
- OP1	- OP1	Blue	- 12 VDC to LED Driver PCB1
- OP2	- OP2	Blue	- 12 VDC to LED Driver PCB2
- OP3	- OP3	Blue	- 12 VDC to LED Driver PCB3
- OP4	- OP4	Blue	- 12 VDC to LED Driver PCB4
- OP6	- OP6	Blue	- 12 VDC to LED Driver PCB5
- OP7	- OP7	Blue	- 12 VDC to LED Driver PCB6
- OP8	- OP8	Blue	- 12 VDC to LED Driver PCB7
+ OP1	*No Label*	Green	+ VDC to Buss Bar (in head)
+ OP2	*No Label*	Green	+ VDC to Buss Bar (in head)
+ OP3	*No Label*	Green	+ VDC to Buss Bar (in head)
+ OP4	*No Label*	Green	+ VDC to Buss Bar (in head)
+ OP6	*No Label*	Green	+ VDC to Buss Bar (in head)
+ OP7	*No Label*	Green	+ VDC to Buss Bar (in head)
+ OP8	*No Label*	Green	+ VDC to Buss Bar (in head)
- PS1	- PS1 (2 wires)	Black	- VDC from Power Supply 1
- PS2	- PS2 (2 wires)	Black	- VDC from Power Supply 2
+ PS1	+ PS1 (2 wires)	Red	+ 12 VDC from Power Supply 1
+ PS2	+ PS2 (2 wires)	Red	+ 12 VDC from Power Supply 2

Step 10. Replace bottom enclosure cover. Make sure no wires are pinched in installation of bottom cover.

Step 11. Position luminaire on upper enclosure so head and yoke move freely.

Step 12. Power luminaire and test.

Power Supply #1 Assembly

Tools:

- #2 Phillips screwdriver
- 3/16" Hex wrench

WARNING: Ensure that power is completely removed from luminaire before attempting any work.

To remove and replace power supply #1 assembly:

Step 1. Remove power from luminaire by disconnecting power cable, disconnect all DMX cables, and allow unit to completely cool.

Step 2. Carefully lay luminaire on flat, steady surface to have access to bottom cover of upper enclosure. Be sure display side of upper enclosure is up and rotate head as shown in Figure 2-55.

CAUTION: Remove power and allow fixture to cool.

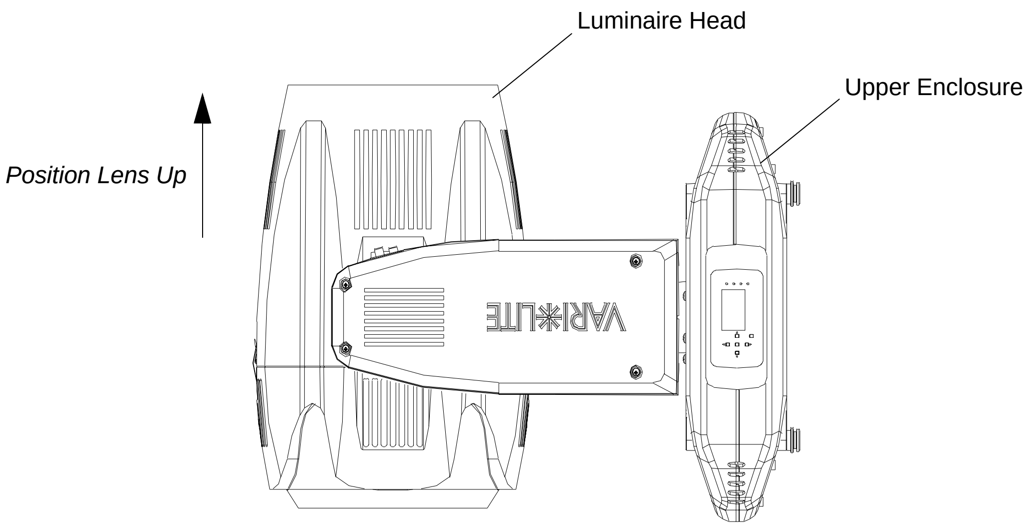
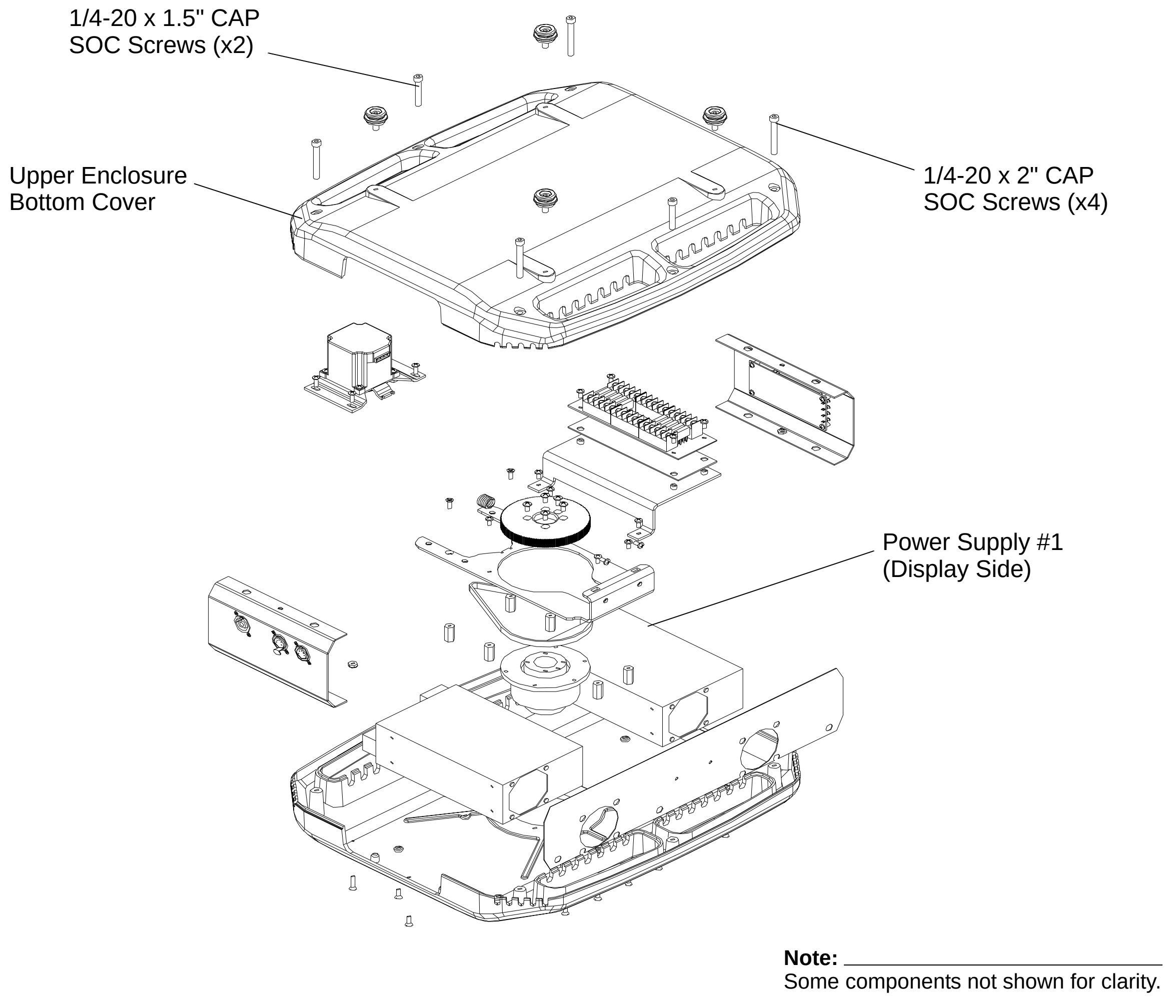


Figure 2-55: VLX Wash Luminaire

Step 3. Using 3/16" hex wrench and as indicated in Figure 2-56, remove four 1/4-20 x 2" CAP SOC screws and two 1/4-20 x 1.5" CAP SOC screws and remove base cover.

Note: Make note of orientation of bottom cover in relation to upper enclosure. It must be reinstalled the same way as it was removed.

Step 4. At upper enclosure top cover, as shown in Figure 2-56, remove four M4 x 12mm PFB screws. It may be necessary to turn enclosure to access screws.



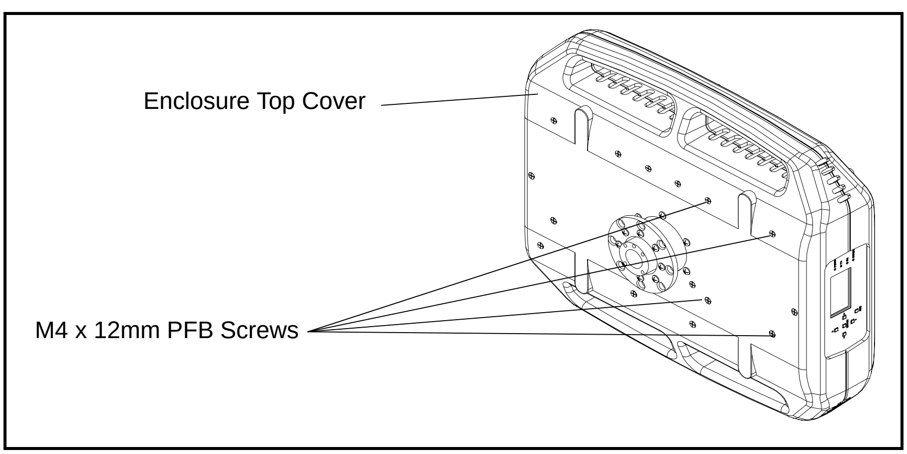


Figure 2-56: VLX Wash Power Supply #1 Assembly

Step 5. Disconnect wiring from power supply #1 assembly:

a. AC In: Black-line, White-neutral, Green-earth. Loosen terminal screws.

b. DC Out: Red +12V (2 wires), Black Negative VDC (2 wires). Remove terminal screws.

c. COM: Power Supply Com from CN1

Step 6. Remove power supply #1 assembly.

Step 7. Replace by performing Steps 3 through 6 in reverse order.

Step 8. Position luminaire on upper enclosure so head and yoke move freely.

Step 9. Power luminaire and test.

Power Supply #2 Assembly

Tools:

- #2 Phillips screwdriver
- 3/16" Hex wrench

WARNING: Ensure that power is completely removed from luminaire before attempting any work.

To remove and replace power supply #2 assembly:

Step 1. Remove power from luminaire by disconnecting power cable, disconnect all DMX cables, and allow unit to completely cool.

Step 2. Carefully lay luminaire on flat, steady surface to have access to bottom cover of upper enclosure. Be sure connector side of upper enclosure is up and rotate head as shown in Figure 2-57.

CAUTION: Remove power and allow fixture to cool.

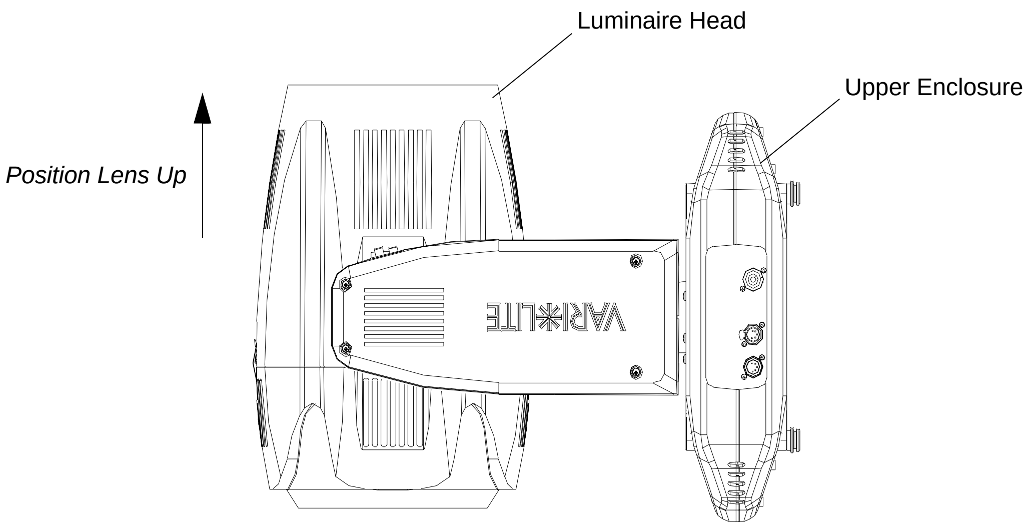


Figure 2-57: VLX Wash Luminaire

Step 3. Using 3/16" hex wrench and as indicated in Figure 2-58, remove four 1/4-20 x 2" CAP SOC screws and two 1/4-20 x 1.5" CAP SOC screws and remove base cover.

Note: Make note of orientation of bottom cover in relation to upper enclosure. It must be reinstalled the same way as it was removed.

Step 4. At upper enclosure top cover, as shown in Figure 2-58, remove four M4 x 12mm PFB screws. It may be necessary to turn enclosure to access screws.

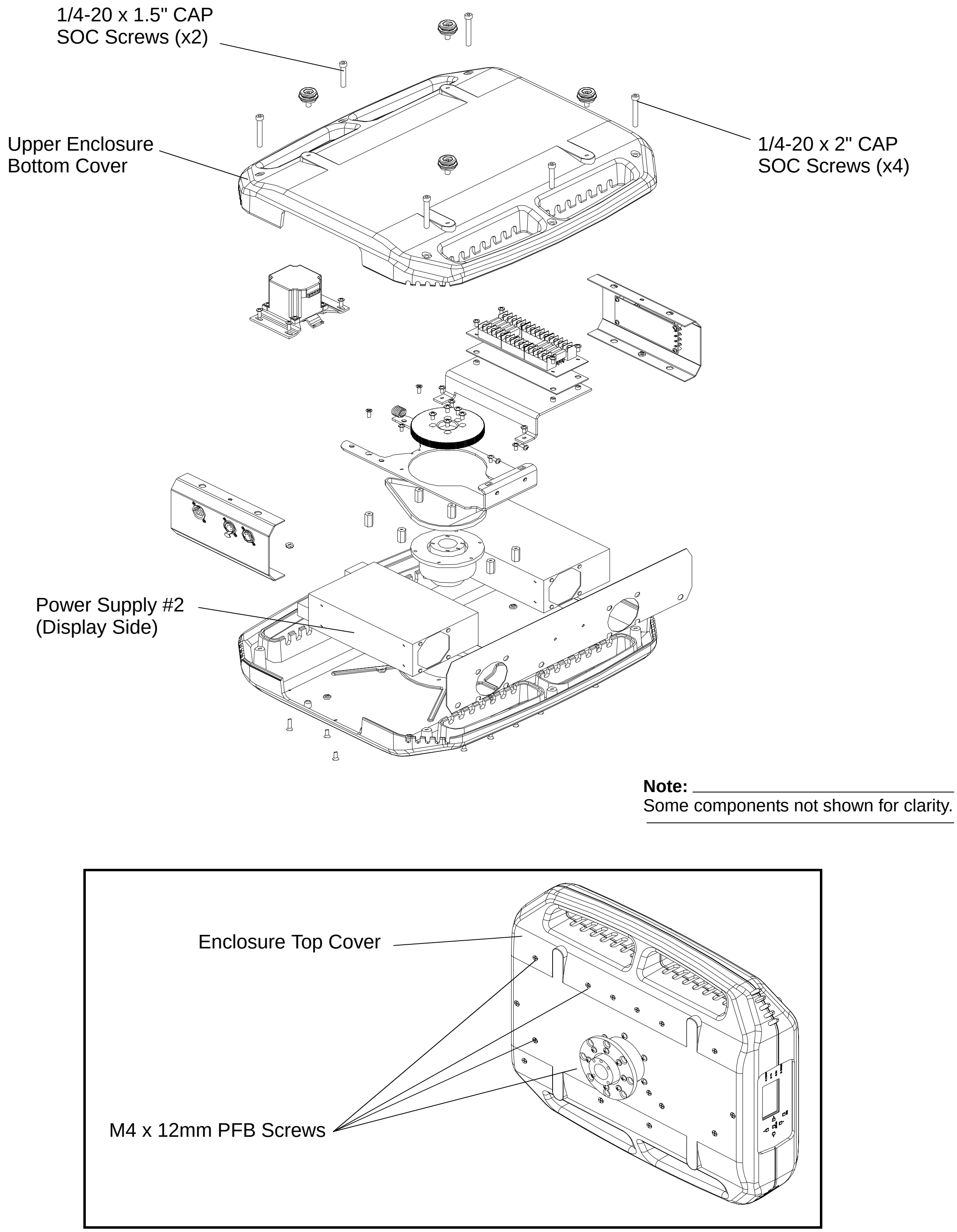


Figure 2-58: VLX Wash Power Supply #2 Assembly

Step 5. Disconnect wiring from power supply #2 assembly:

a. AC In: Black-line, White-neutral, Green-earth. Loosen terminal screws.

b. DC Out: Red +12V (2 wires), Black Negative VDC (2 wires). Remove terminal screws.

c. COM: Power Supply Com from CN1

Note: There is an extra set of wires on AC Input. These wires supply power to 24V Low-Voltage Supply (LVS) in yoke assembly. Black is LINE and Black/Silver is NEUTRAL.

Step 6. Remove power supply #2 assembly.

Step 7. Replace by performing Steps 3 through 6 in reverse order.

Step 8. Position luminaire on upper enclosure so head and yoke move freely.

Step 9. Power luminaire and test.

Pan Motor Assembly

Tools:

- #2 Phillips screwdriver
- 3/16" Hex wrench

WARNING: Ensure that power is completely removed from luminaire before attempting any work.

To remove and replace pan motor assembly:

Step 1. Remove power from luminaire by disconnecting power cable, disconnect all DMX cables, and allow unit to completely cool.

Step 2. Carefully lay luminaire on flat, steady surface to have access to bottom cover of upper enclosure. Rotate head as shown in Figure 2-59.

CAUTION: Remove power and allow fixture to cool.

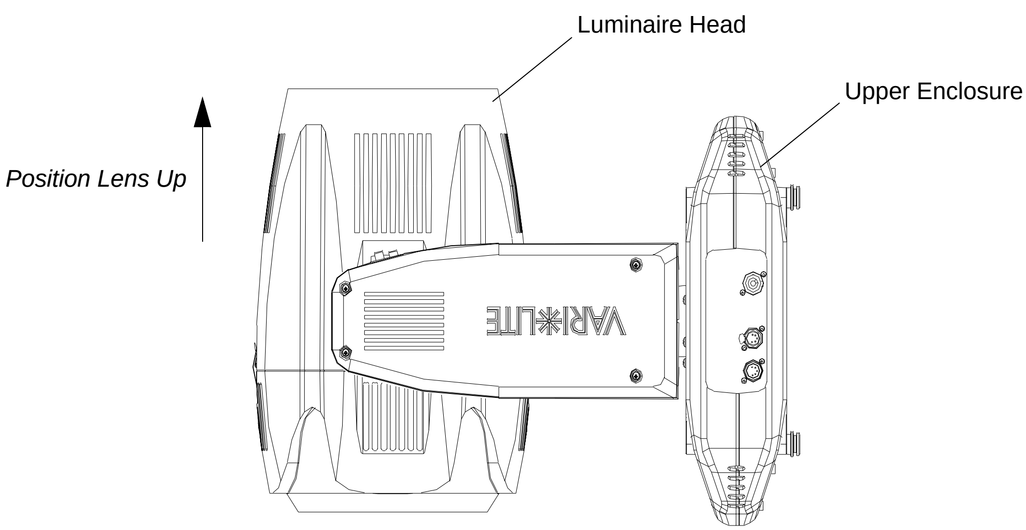


Figure 2-59: VLX Wash Luminaire

Step 3. Using 3/16" hex wrench and as indicated in Figure 2-60, remove four 1/4-20 x 2" CAP SOC screws and two 1/4-20 x 1.5" CAP SOC screws and remove base cover.

Note: Make note of orientation of bottom cover in relation to upper enclosure. It must be reinstalled the same way as it was removed.

Step 4. Orient upper enclosure so pan motor assembly is down.

Step 5. Disconnect pan motor wiring harness from motor.

Step 6. As shown in Figure 2-60, remove four 8-32 x 1/2" PPB screws that mount motor assembly Note wiring routing.

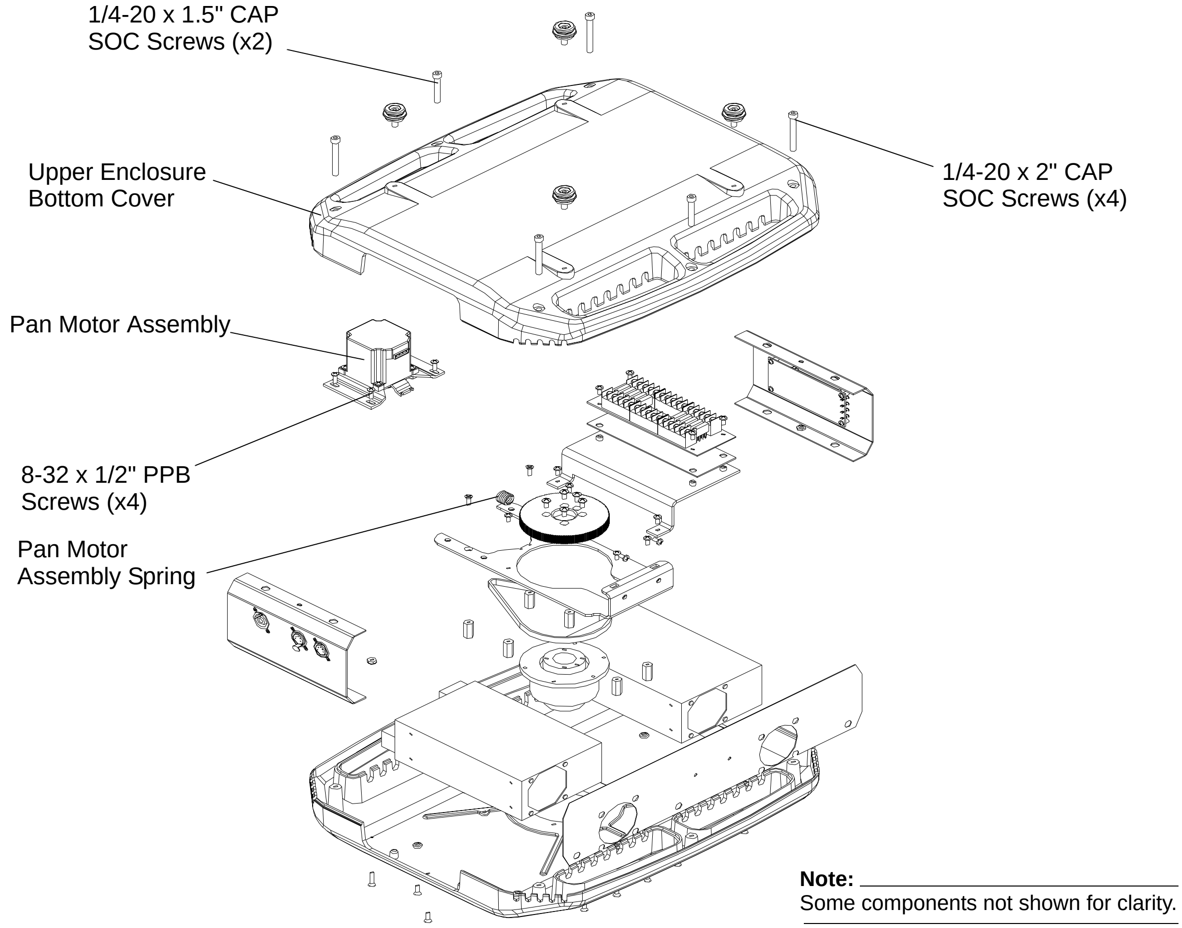


Figure 2-60: VLX Wash Pan Motor Assembly

Step 7. Pull top, spring side of motor assembly, out while holding spring.

Step 8. Remove pan motor assembly from fixture by lifting out and away from enclosure.

Step 9. Disconnect encoder PCB.

Step 10. To reinstall, connect wiring to encoder PCB make sure not to pinch wiring.

Step 11. Angle bottom of motor assembly into enclosure, catch pan motor belt in pulley.

Step 12. With spring in 12 o'clock position, install 8-32 x 1/2" PPB screws starting to the immediate to left of spring (10 o'clock) then tighten in clockwise fashion.

Step 13. Reassemble luminaire.

Step 14. Position luminaire on upper enclosure so head and yoke move freely.

Step 15. Power luminaire and test.

Pan Motor Belt

Tools:

- #2 Phillips screwdriver
- 3/16" Hex wrench

WARNING: Ensure that power is completely removed from luminaire before attempting any work.

To remove and replace pan motor belt:

Step 1. Remove power from luminaire by disconnecting power cable, disconnect all DMX cables, and allow unit to completely cool.

Step 2. Carefully lay luminaire on flat, steady surface to have access to bottom cover of upper enclosure. Rotate head as shown in Figure 2-61.

CAUTION: Remove power and allow fixture to cool.

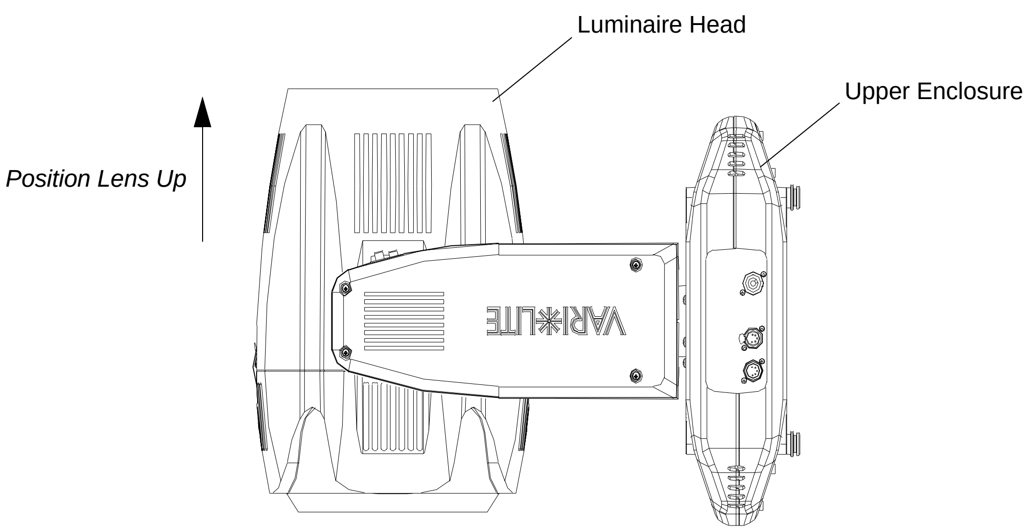


Figure 2-61: VLX Wash Luminaire

Step 3. Using 3/16" hex wrench and as indicated in Figure 2-62, remove four 1/4-20 x 2" CAP SOC screws and two 1/4-20 x 1.5" CAP SOC screws and remove base cover.

Note: Make note of orientation of bottom cover in relation to upper enclosure. It must be reinstalled the same way as it was removed.

Step 4. Remove pan motor assembly according procedure outlined in "Pan Motor Assembly" on page 80.

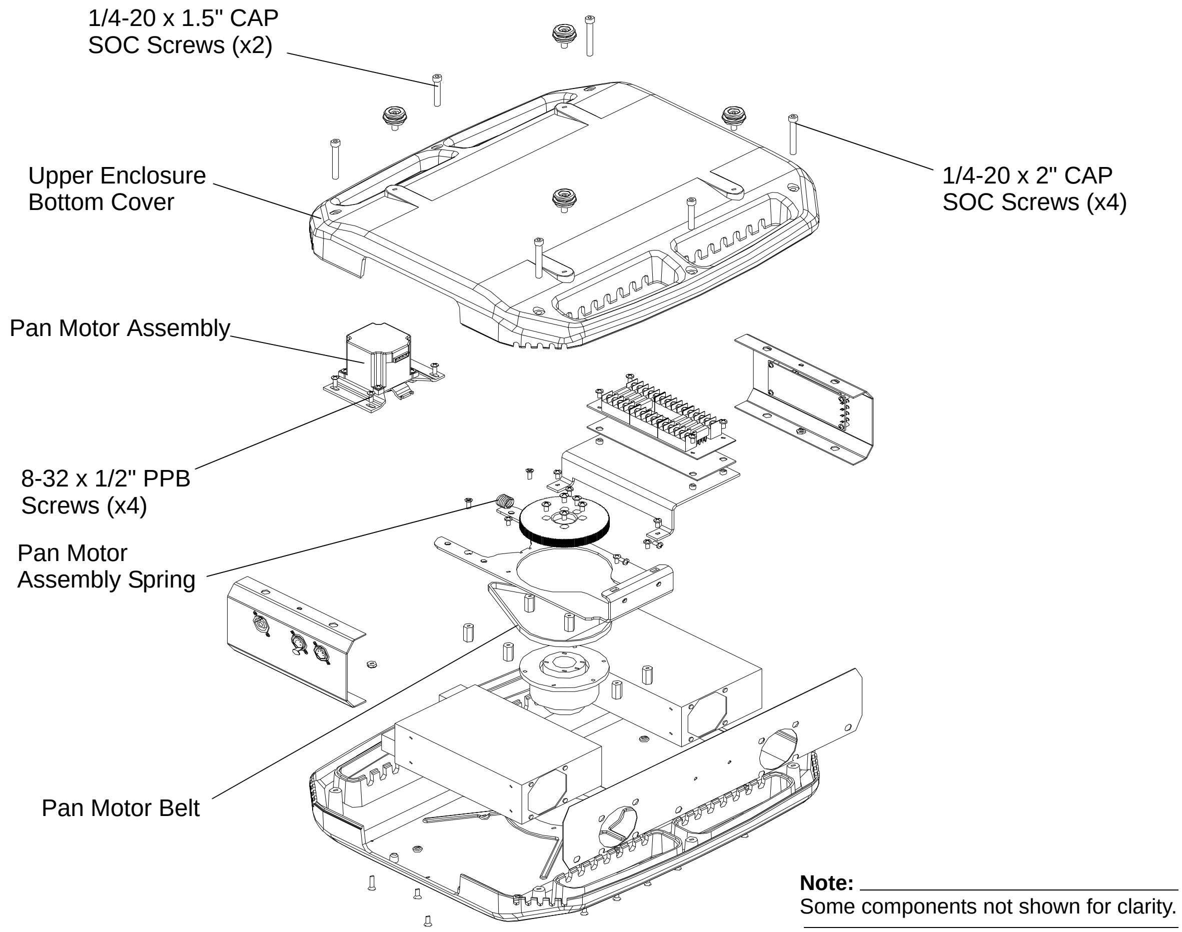


Figure 2-62: VLX Wash Pan Motor Belt

Step 5. In upper enclosure, disconnect wiring:

a. At Power Distribution Board Assembly - All Blue & Green wiring

b. At Power Supply #2 Assembly - Black and Black/Silver wiring

c. At DMX PCB Assembly - DMX COM and Display COM wiring

Note: Be sure to note placement of all cables ties that have to put and replaced in this procedure.

Step 6. Pull pan belt through pan motor assembly pulley.

Step 7. Reassemble by following Steps 3 through 6 in reverse order. Be sure to follow pan motor assembly installation procedure in "Pan Motor Assembly" on page 80.

Step 8. Position luminaire on upper enclosure so head and yoke move freely.

Step 9. Power luminaire and test.

Pan Encoder PCB

Tools:

- #2 Phillips screwdriver
- 3/16" Hex wrench

WARNING: Ensure that power is completely removed from luminaire before attempting any work.

To remove and replace pan encoder PCB:

Step 1. Remove power from luminaire by disconnecting power cable, disconnect all DMX cables, and allow unit to completely cool.

Step 2. Carefully lay luminaire on flat, steady surface to have access to bottom cover of upper enclosure. Rotate head as shown in Figure 2-62.

CAUTION: Remove power and allow fixture to cool.

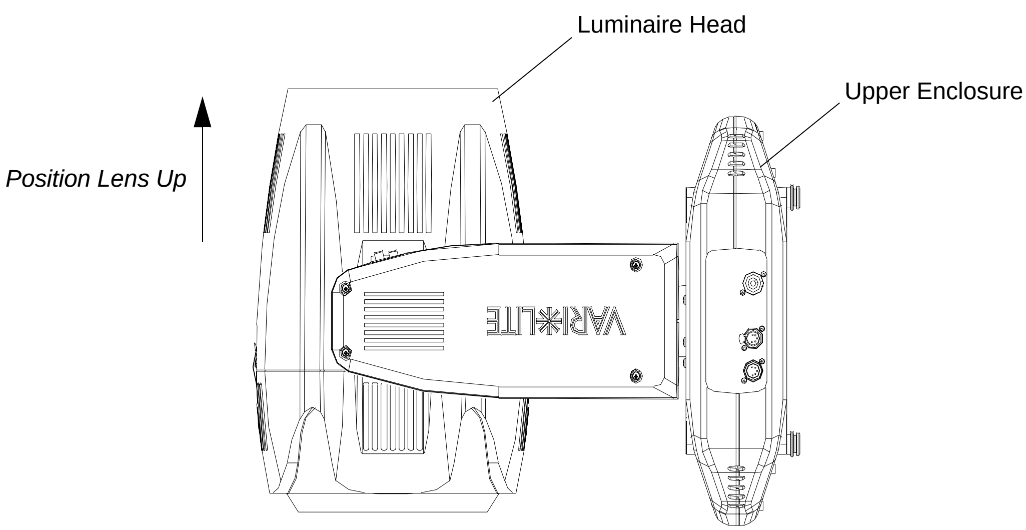


Figure 2-63: VLX Wash Luminaire

Step 3. Using 3/16" hex wrench and as indicated in Figure 2-64, remove four 1/4-20 x 2" CAP SOC screws and two 1/4-20 x 1.5" CAP SOC screws and remove base cover.

Note: Make note of orientation of bottom cover in relation to upper enclosure. It must be reinstalled the same way as it was removed.

Step 4. Remove pan motor assembly according procedure outlined in “Pan Motor Assembly” on page 80.

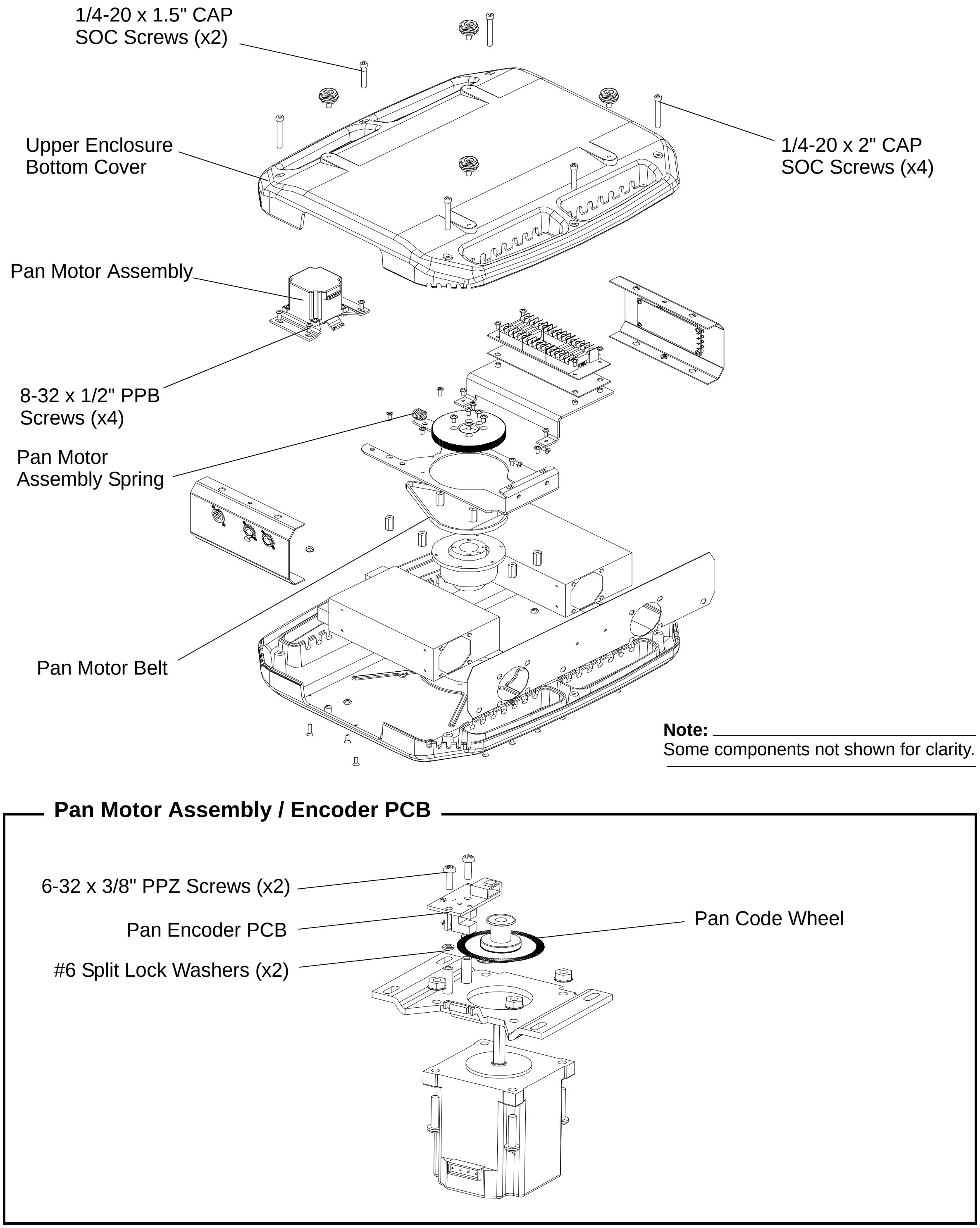


Figure 2-64: VLX Wash Pan Encoder PCB

Step 5. As shown in Figure 2-64, remove two 6-32 x 3/8" PPZ screws and remove PCB. Note there are two #6 split lock washers between PCB and pan motor assembly.

Step 6. Reassemble by following Steps 3 through 5 in reverse order. Be sure to follow pan motor assembly installation procedure in "Pan Motor Assembly" on page 80.

Note: Be sure pan code wheel passes freely through encoder PCB sensor during installation.

Step 7. Position luminaire on upper enclosure so head and yoke move freely.

Step 8. Power luminaire and test.

VLX Wash dropCal (Reinstall Factory LED Calibration)

Tools:

- Personal Computer (PC) Running Windows with an available USB port (user supplied).
- The dropCal software (allows installation of luminaire's LED factory calibration). Note, this software is only available from Vari-Lite technical support.
- Calibration .txt file (dropCal), which is specific to the serial number of the fixture. Note, this file is only available from Vari-Lite technical support.
- Vari-Lite USB Programming Cable (Vari-Lite Part Number 28.8500.0054).

WARNING: The dropCal file is a unique calibration file and is specific to the fixture's serial number. Using a dropCal file from another fixture will load a different calibration scheme and will cause the fixture to be out of calibration.

To reinstall the calibration file in a VLX Wash Luminaire:

Step 1. Power luminaire and allow calibration routine to run.

Step 2. Access luminaire LED calibration menu by pressing and holding all four arrow buttons (on luminaire Menu) simultaneously until LED CAL Mode is shown on LCD display. Refer to Figure 2-65.

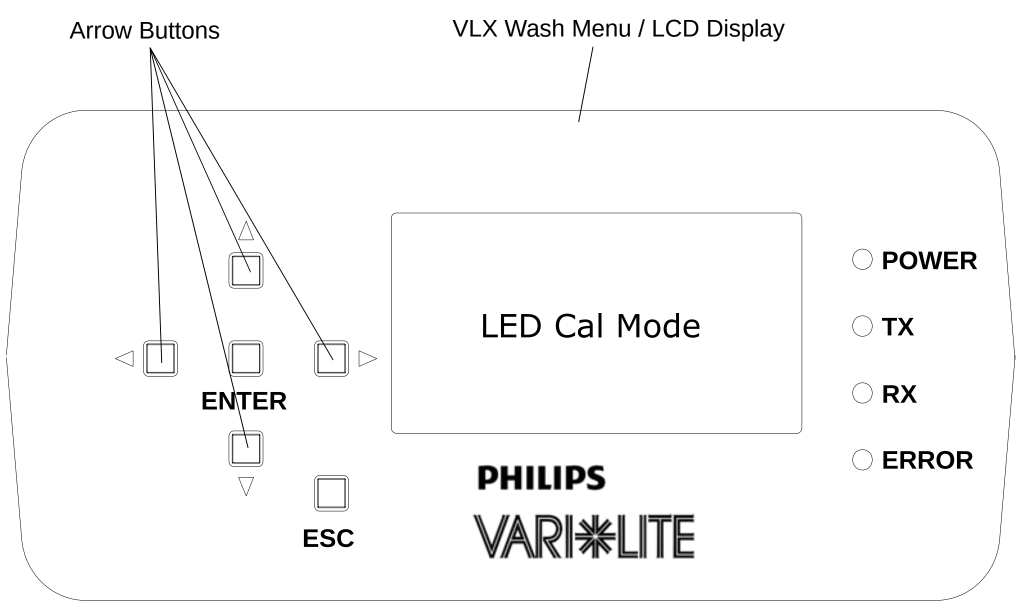


Figure 2-65: VLX Wash Menu / LCD Display

Step 3. Press [ENTER] on menu.

Step 4. Display now reads Cal? Yes.

Step 5. Press [ENTER] on menu.

Step 6. Display now reads Set LED Cal.

Step 7. Press [ENTER] on menu.

Step 8. Display now reads Wait for Cal.

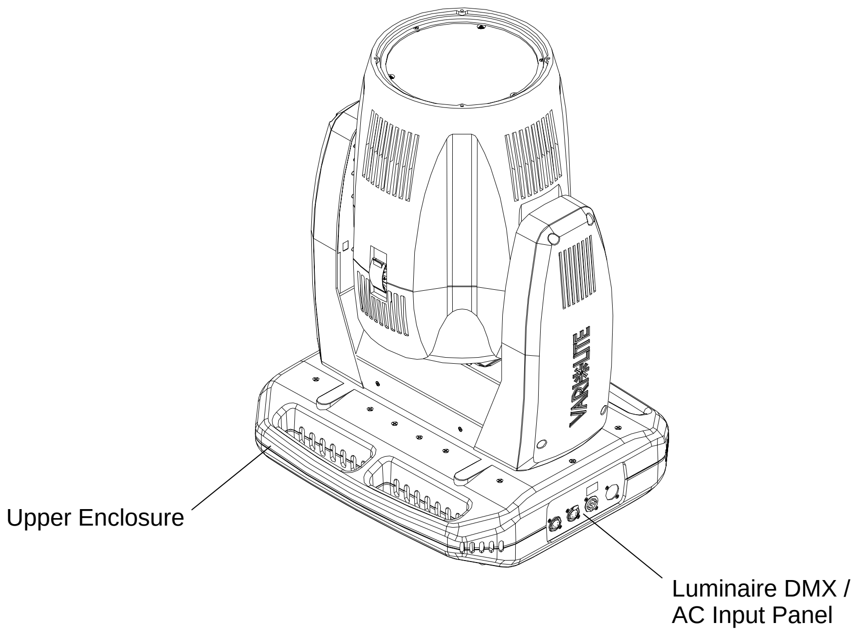


Figure 2-66: VLX Wash DMX / AC Input Panel

Step 9. At PC, attach USB Programming Cable to available USB port and at luminaire, using other end of US Programming USB Cable, connect to DMX IN at DMX / AC Input Panel as indicated in Figure 2-66.

Note: It is best to use the PC normally used to upload VARI❋LITE® luminaire software since it will already have the necessary drivers installed for the USB Programming Cable.

Step 10. Launch dropCal.exe application on PC.

Step 11. Drag .txt file for specific luminaire in PC window (example, for VLX 67 [67 being the last digits of the serial number], drag file 67.txt).

Step 12. dropCal window will read, Completed!

Step 13. LCD display on luminaire will read Cal Complete.

Step 14. Press [ENTER] on menu.

Step 15. The luminaire will run its calibration routine and unit shall be ready for use.

CHAPTER 3.

Illustrated Parts Breakdown

This chapter contains illustrated parts breakdowns for all VLX™ LED Wash Luminaire assemblies.

- **Drawing Tree**
- **Top Assembly**
- **Head Assembly**
- **Yoke Assembly**
- **Enclosure Assembly**
- **Cable Assemblies**

Drawing Tree

VLX Wash Luminaire

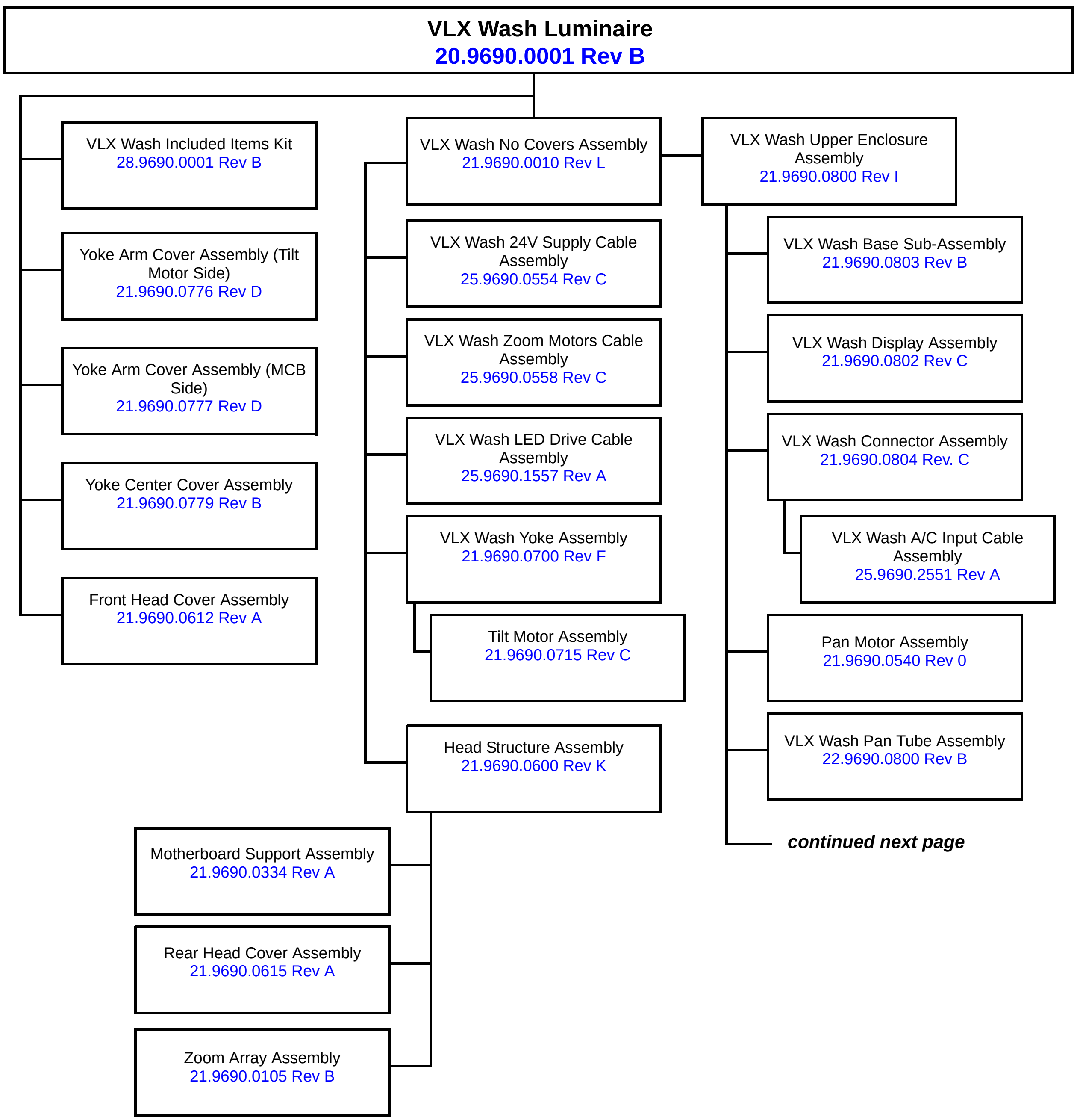


Figure 3-1: VLX Wash Luminaire Subassembly Drawing Tree Part 1

VLX Wash Luminaire (continued)

continued from previous page

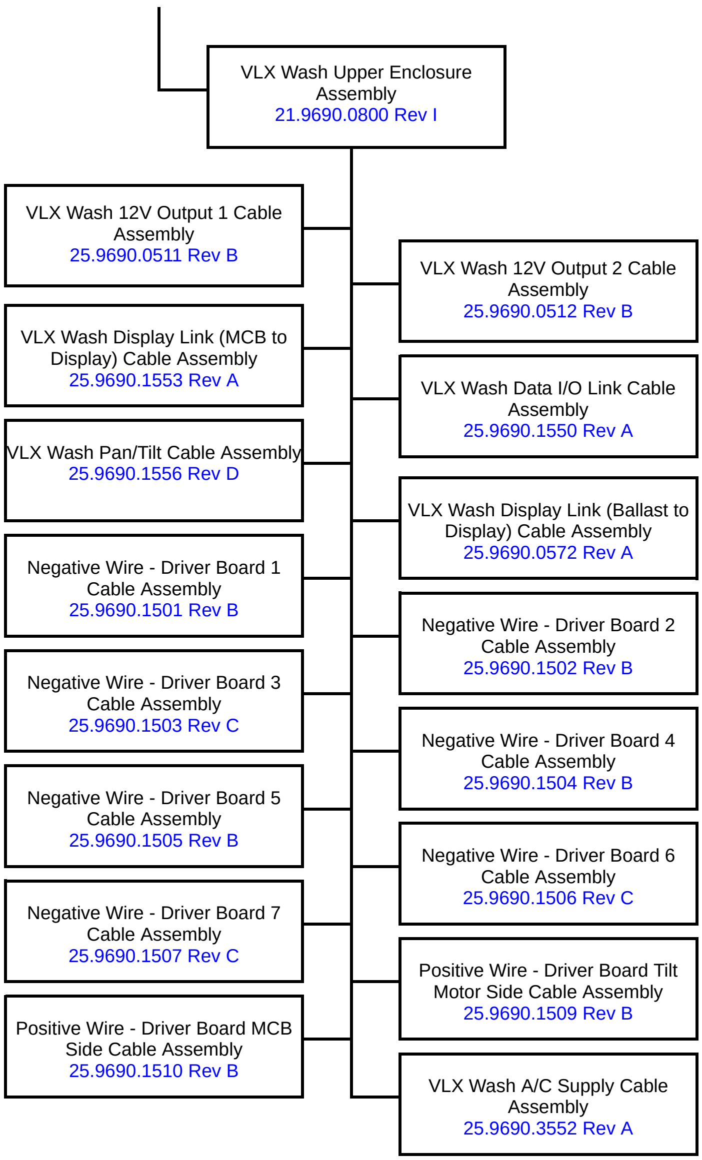


Figure 3-2: VLX Wash Luminaire Subassembly Drawing Tree Part 2

Top Assembly

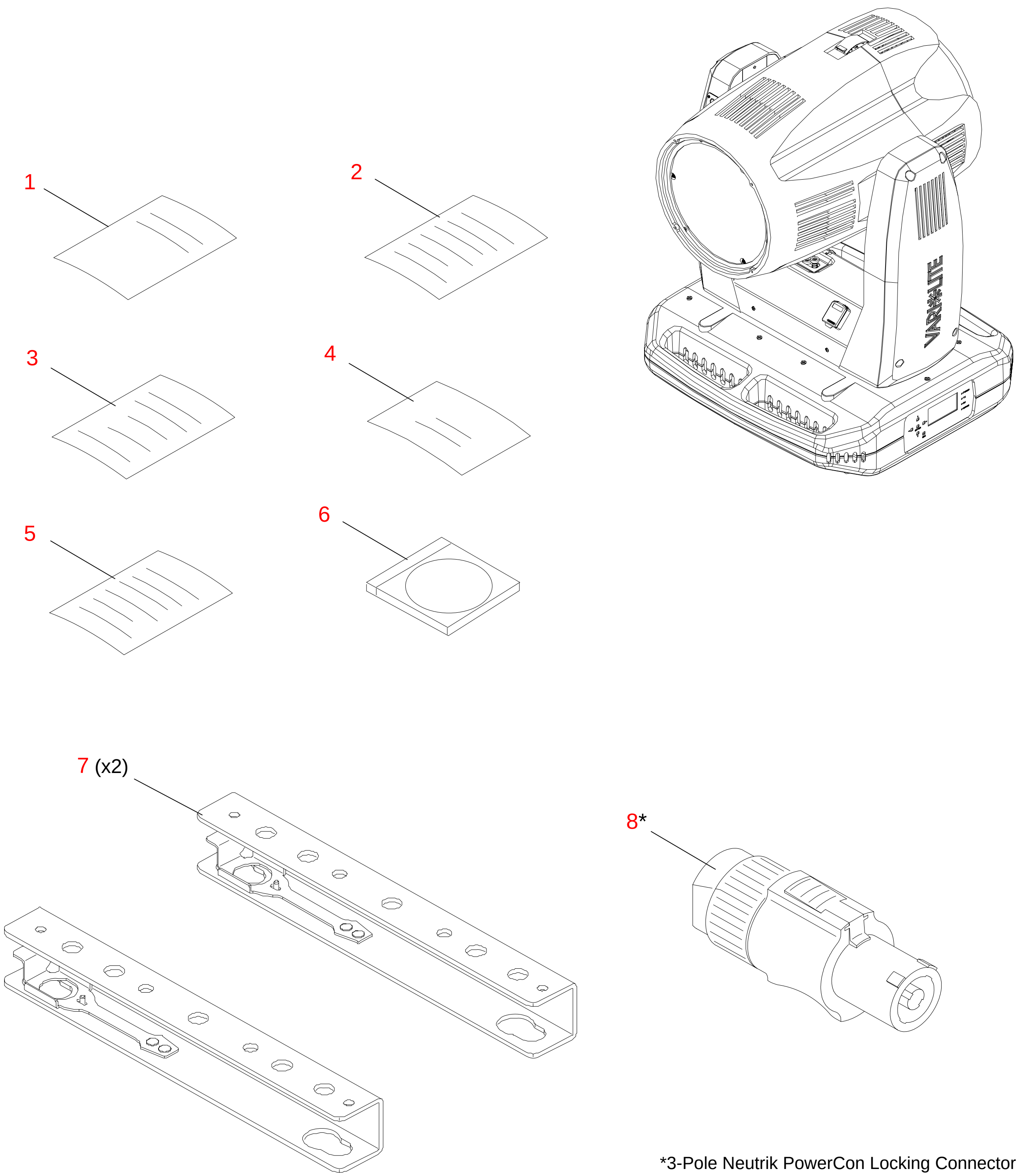
VLX Wash Included Items Kit

28.9690.0001 Rev B

Refer to Figure 3-3.

No.	Item	Qty.	UM.	Description
1	02.8001.0001	1	EA	PRODUCT SUPPORT SHEET, VARI-LITE CUSTOMER SERVICE
2	02.8001.0002	1	EA	VARI-LITE QUALITY ASSURANCE SHEET
3	02.8052.0001	1	EA	CARD, LIMITED WARRANTY
4	02.8700.0001	1	EA	CARD, PRODUCT REGISTRATION
5	02.9690.0002	1	EA	UNPACK/QUICK START SHEET, VLX WASH
-	04.4037.0001	5	EA	LABEL, 2.5 X .5 BARCODE (**not shown**)
-	04.9678.1001	2	EA	LABEL, GREEN ROHS COMPLIANT (**not shown**)
-	04.9690.0001	2	EA	LABEL, SHIPPING BOX, VLX WASH (**not shown**)
-	06.6073.0001	1	EA	SHIPPING FOAM (**not shown**)
-	07.5044.0001	1	EA	BAG, DESICCANT, SHIPPING BOX (**not shown**)
-	07.9690.0001	1	EA	CARDBOARD SHIPPING BOX, VLX WASH (**not shown**)
6	08.9690.0001	1	EA	CD-ROM, VLX WASH PRODUCT DOCUMENTATION, USER
7	22.9661.1636	2	EA	FAB ASSY, BRACKET TRUSS HOOK
8	52.6541.0001	1	EA	CONN., BLUE CABLE POWER INLET POWERCON

VLX Wash Included Items Kit (continued)



*3-Pole Neutrik PowerCon Locking Connector for AC Input Power. Power input cable must be constructed by user.

Figure 3-3: VLX Wash Included Items Kit

VLX Wash Luminaire

20.9690.0001 Rev B

Refer to Figure 3-4

No.	Item	Qty.	UM.	Description
1	21.9690.0010	1	EA	ASSY, VLX, NO COVERS
2	21.9690.0612	1	EA	ASSY, HEAD COVER, FRONT
3	21.9690.0776	1	EA	ASSY, YOKE COVER, TILT MOTOR SIDE
4	21.9690.0777		EA	ASSY, YOKE COVER, MAIN CONTROL BOARD SIDE
5	21.9690.0779	1	EA	ASSY, CENTER COVER
-	28.9690.0001	1	EA	INCLUDED ITEMS KIT, VLX WASH (**not shown**)
6	53.6608.0001	6	EA	SCREW, 6-32 X 3/8" PFB
-	73.7190.0005	1	EA	CABLE, USB, A-B, 0.31M LG (**not shown**)

VLX Wash Luminaire (continued)

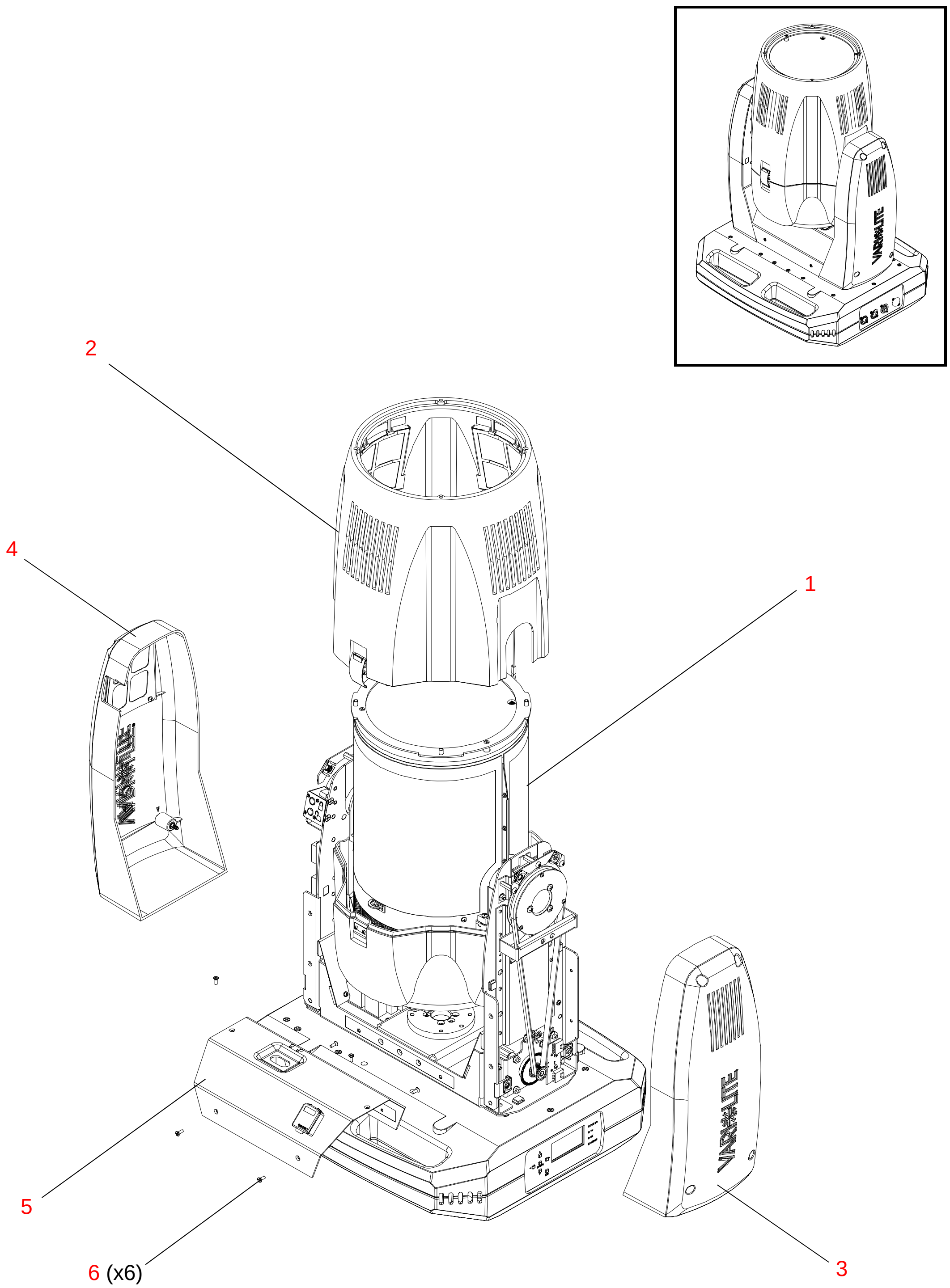


Figure 3-4: VLX Wash Luminaire

VLX Wash No Covers Assembly

21.9690.0010 Rev L

Refer to Figure 3-5, Figure 3-6, and Figure 3-7

No.	Item	Qty.	UM.	Description
1	10.9690.0618	1	EA	CLIP, COVER, LANYARD
2	10.9690.0637	2	EA	SHIELD, FRONT, HALF
3	10.9690.0639	2	EA	GROUND STRAP, COMMON, SHORT
4	10.9690.0726	2	EA	MOUNTING PLATE, 1/4-TURN
5	10.9690.0738	1	EA	SPACER, MOUNT, TILT LOCK
6	10.9690.0743	1	EA	PULLEY, DRIVEN, TILT
7	10.9690.0744	1	EA	COT FLAG, TILT
8	10.9690.0745	1	EA	TILT STOP
9	10.9690.0746	1	EA	CABLE GUARD, TILT LOCK SIDE
10	10.9690.0747	1	EA	CABLE GUARD, TILT PULLEY SIDE
11	10.9690.0756	2	EA	TILT CLOSEOUT PANEL
12	10.9690.0771	2	EA	YOKE LEG ANGLE CLOSEOUT
13	10.9690.1739	1	EA	LOCK CYLINDER, TILT LOCK
14	10.9690.1757	2	EA	TILT BEARING CLAMP
15	21.9690.0600	1	EA	ASSY, HEAD
16	21.9690.0700	1	EA	ASSY, YOKE
17	21.9690.0800	1	EA	ASSY, BASE (UPPER ENCLOSURE)
18	22.9690.0729	1	EA	ASSY, TILT LOCK
19	22.9690.0801	1	EA	ASSY, PAN LOCK
20	23.9690.0790	1	EA	CABLE ASSY, COT SENSOR
21	24.9690.1700	1	EA	BOARD ASSY, VLX WASH CONTROL BOARD
-	25.9690.0554	1	EA	CABLE ASSY, VLX 24V SUPPLY (**not shown**)
-	25.9690.0558	1	EA	CABLE ASSY, VLX ZOOM MOTORS (**not shown**)
-	25.9690.1557	1	EA	CABLE ASSY, VLX DRIVE (**not shown**)
22	53.2001.0001	3	EA	NUT, 10-32, KEPS, ZINC PLATED
23	53.2200.0008	4	EA	NUT, 8-32, KEPS, SS
24	53.6513.0047	4	EA	SCREW, M4 X 8 MM, PPZ
25	53.6525.0001	8	EA	SCREW, 6-32 X 5/16" PPZ
26	53.6537.0001	3	EA	SCREW, 4-40 X 5/8" PPB1‘
27	53.6544.0002	2	EA	SCREW, 8-32 X 3/4" PPZ
28	53.6553.0004	6	EA	SCREW, 10-32 X 3/8" PPB TYPE F

No.	Item	Qty.	UM.	Description
29	53.6558.0009	12	EA	SCREW, 6-32 X 3/8" PPZ SEMS
30	53.6575.0001	5	EA	SCREW, 10-32 X 3/4" PPB
31	53.6575.0009	8	EA	SCREW, 8-32 X 3/8" PPZ SEMS BLK
32	53.6592.0250	4	EA	SCREW, 4-40 X 1/4" PPB SEMS
33	53.6624.0001	4	EA	SCREW, 10-32 X 1/2" PFB
34	53.6682.0023	9	EA	SCREW, 8-32 X 3/16" LG PPZ SEM
35	54.2069.0001	1	EA	BELT, GT 2MM, 372 GROOVE, NEO W/ FIBERGLASS
36	55.2179.0003	2	EA	SADDLE, CABLE, 0.75 X 0.75 4-WAY
37	55.2191.0001	3	EA	CABLE CLAMP, 1/2" WIDE, 5/8"
38	55.2233.2001	4	EA	DZUS RAPIER MINI CLIP ON RETAINER
39	55.3303.0010	5	EA	WASHER, #10, SPLIT LOCK
40	55.6704.0016	6	EA	STANDOFF, 1/4" HEX, 8-32 F/F X 0.875" LG SS
41	55.6543.0001	14	IN	GROMMET, SERRATED STRIP, 0.063"
42	55.3301.0010	3	EA	WASHER, #10, FLAT
-	55.6699.0011	12	IN	ROUNDIT 2000, 3/4" BLACK (**not shown**)

VLX Wash No Covers Assembly (continued)

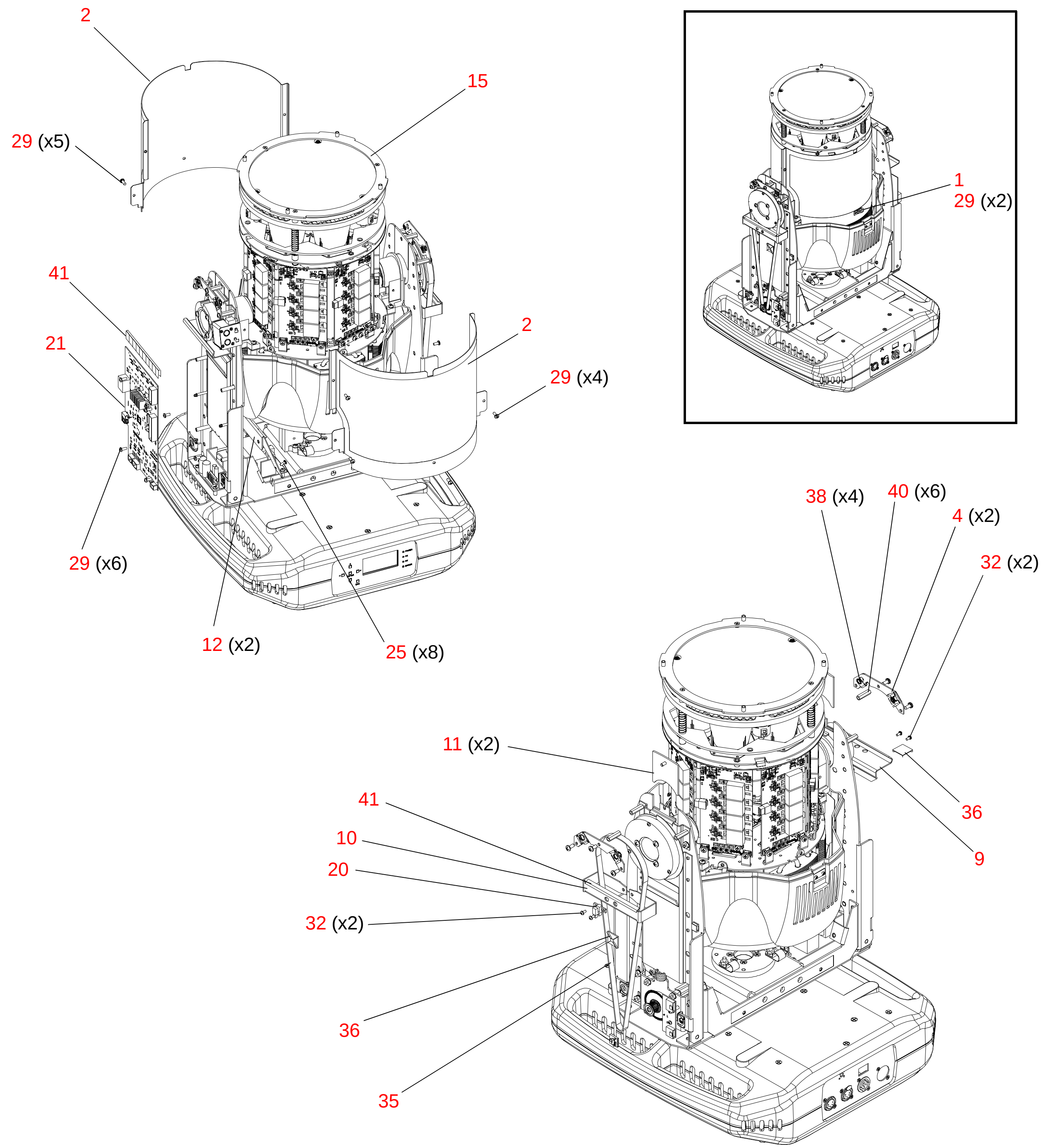
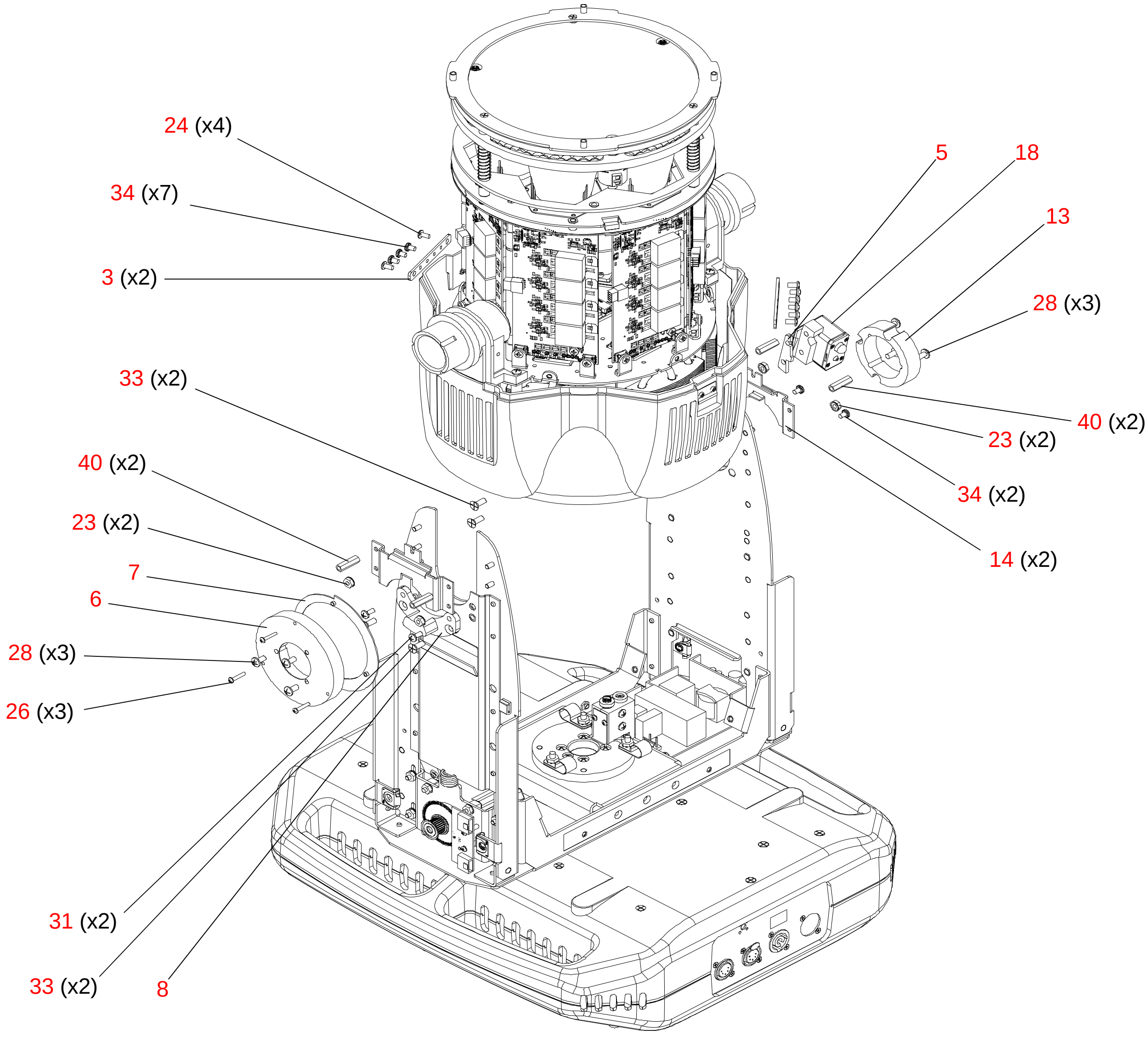


Figure 3-5: VLX Wash No Covers Assembly (Part 1)

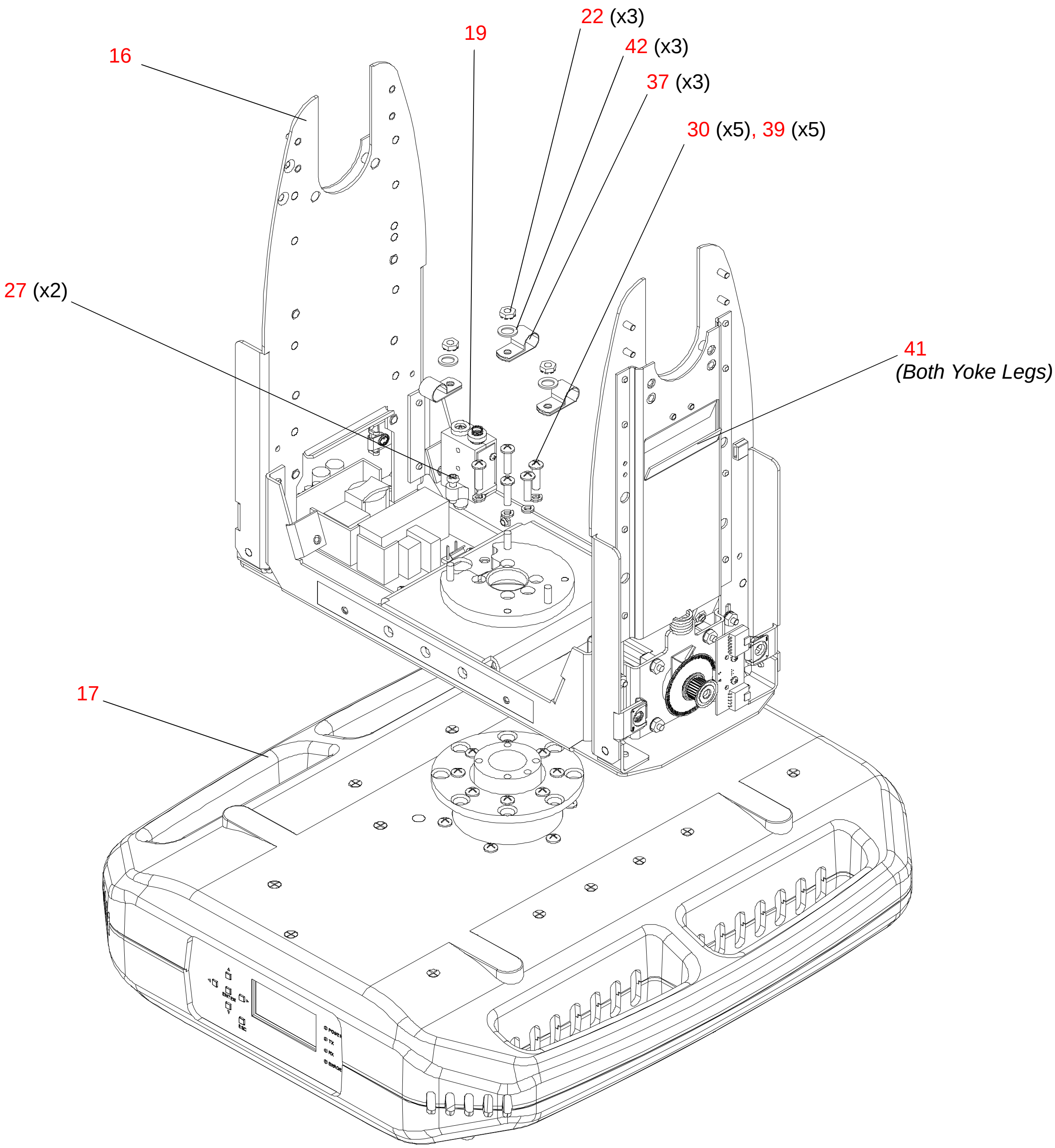
VLX Wash No Covers Assembly (continued)



Note:
Some components removed for clarity.

Figure 3-6: VLX Wash No Covers Assembly (Part 2)

VLX Wash No Covers Assembly (continued)



Note:
Some components removed for clarity.

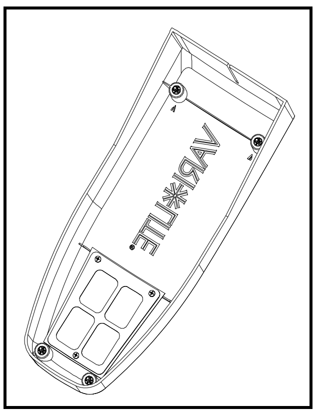
Figure 3-7: VLX Wash No Covers Assembly (Part 3)

Yoke Arm Cover Assembly (Tilt Motor Side)

21.9690.0776 Rev D

Refer to Figure 3-8

No.	Item	Qty.	UM.	Description
1	10.9690.0778	1	EA	BRACKET, FOAM, YOKE COVER
2	10.9690.0779	1	EA	FOAM AIR FILTER, YOKE COVER
3	10.9690.2775	1	EA	YOKE COVER, TILT MOTOR SIDE
4	53.5655.0250	3	EA	SCREW, #6 X 1/4" PPZ PLASTIC
5	55.2233.2002	4	EA	DZUS RAPIER, 1/4-TURN STUD 5 MM 10 MM LG
6	55.2233.2003	4	EA	DZUS RAPIER, 1/4-TURN STUD RETAINER 5 MM



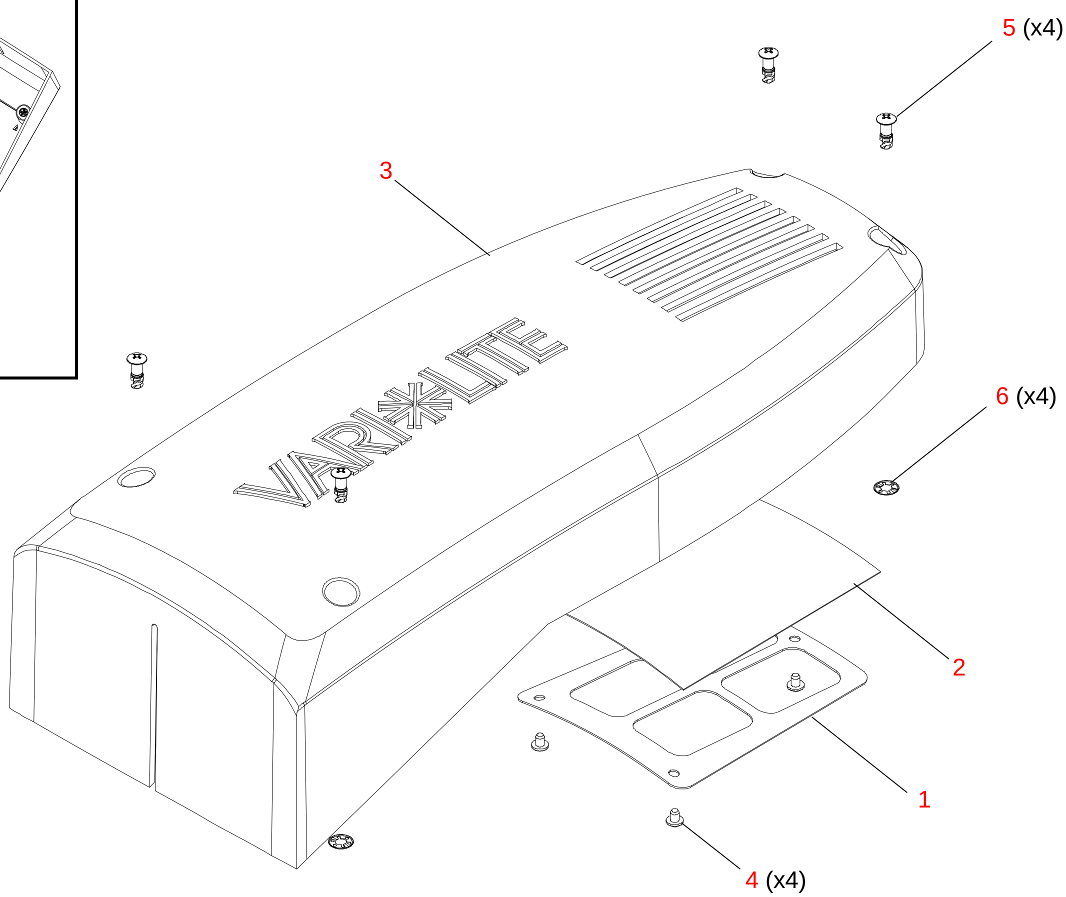


Figure 3-8: Yoke Arm Cover Assembly (Tilt Motor Side)

Yoke Arm Cover Assembly (MCB Side)

21.9690.0777 Rev D

Refer to Figure 3-9

No.	Item	Qty.	UM.	Description
1	10.9690.0778	1	EA	BRACKET, FOAM, YOKE COVER
2	10.9690.0779	1	EA	FOAM AIR FILTER, YOKE COVER
3	10.9690.2774	1	EA	YOKE COVER, MCB SIDE
4	53.5655.0250	3	EA	SCREW, #6 X 1/4" PPZ PLASTIC
5	55.2233.2002	4	EA	DZUS RAPIER, 1/4-TURN STUD 5 MM 10 MM LG
6	55.2233.2003	4	EA	DZUS RAPIER, 1/4-TURN STUD RETAINER 5 MM

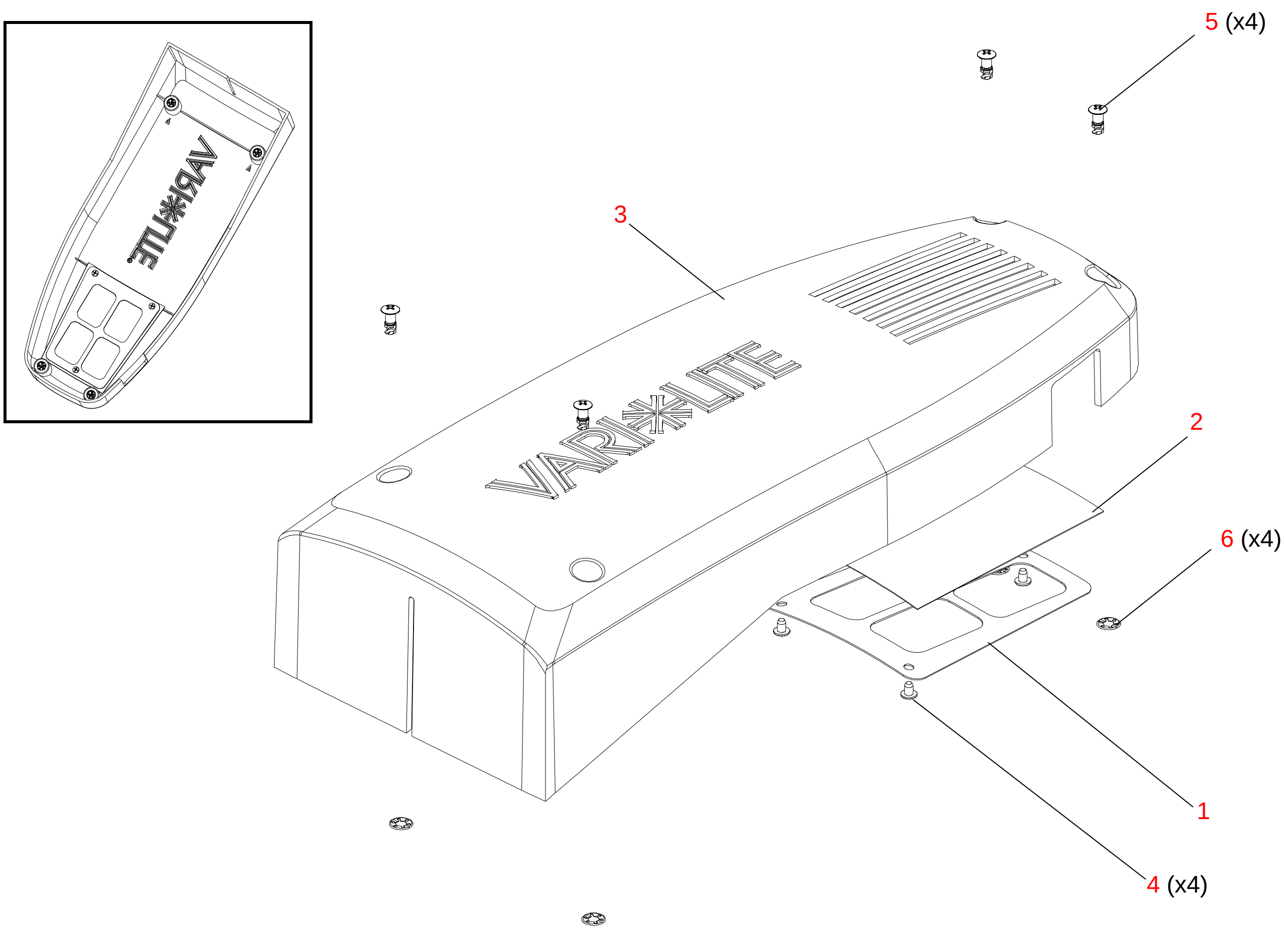


Figure 3-9: Yoke Arm Cover Assembly (MCB Side)

Yoke Center Cover Assembly

21.9690.0779 Rev B

Refer to Figure 3-10

No.	Item	Qty.	UM.	Description
1	10.9690.1770	1	EA	COVER, CENTER, YOKE
2	53.2200.0004	2	EA	NUT, 4-40 KEPS SS
3	53.6598.0001	2	EA	SCREW, 4-40 X 3/8" PFB
4	53.9690.0511	1	EA	COVER, HINGED, NEUTRIK D-CHASSIS
5	53.9690.0512	1	EA	USB GENDER CHANGER, BLACK, D-CHASSIS

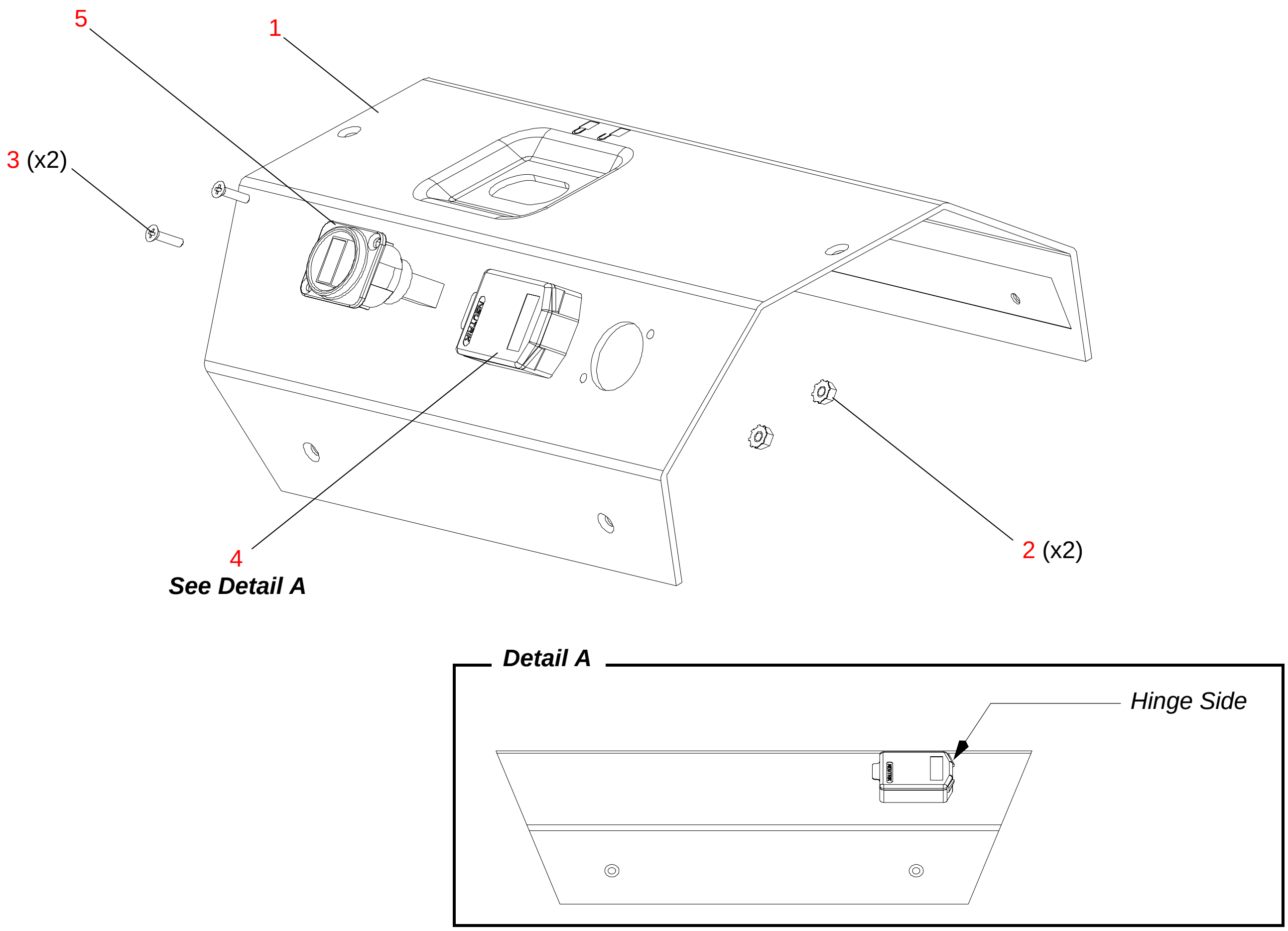


Figure 3-10: Yoke Center Cover Assembly

Notes

Head Assembly

Head Structure Assembly

21.9690.0600 Rev K

Refer to Figure 3-1 and Figure 3-2

No.	Item	Qty.	UM.	Description
1	10.9690.0231	3	EA	STANDOFF, ZOOM SUPPORT
2	10.9690.0232	3	EA	STANDOFF, ZOOM SLIDE
3	10.9690.0240	1	EA	CLOSEOUT RING, ZOOM
4	10.9690.0241	1	EA	CLOSEOUT PLATE, NON-ZOOM
5	10.9690.0331	7	EA	SEAL, Z-AXIS STOP
6	10.9690.0332	7	EA	TUBE, SHIELD, LIGHT PIPE
7	10.9690.0333	7	EA	Z-AXIS STOP, HEX
8	10.9690.0337	3	EA	SUPPORT SHAFT, INTERMEDIATE PLATE
9	10.9690.0338	3	EA	SUPPORT SHAFT, INTERMEDIATE MOTHERBOARD
10	10.9690.0339	1	EA	PLATE, INTERMEDIATE, LIGHT PIPE SUPPORT
11	10.9690.0341	7	EA	SEAL, LIGHT PIPE, TOP
12	10.9690.0353	7	EA	LIGHT PIPE SUPPORT, TOP
13	10.9690.0620	1	EA	GRILL, AIR EXHAUST, HEX
14	10.9690.0621	4	EA	STANDOFF, EXHAUST GRILL
15	10.9690.0628	4	EA	STANDOFF, TILT TUBE
16	21.9690.0105	1	EA	ASSY, ZOOM ARRAY
17	21.9690.0334	1	EA	ASSY, MOTHERBOARD SUPPORT
18	21.9690.0615	1	EA	ASSY, HEAD COVER, REAR
19	22.9690.0310	1	EA	ASSY, COOLING SYSTEM, VLX
19a	22.9690.0311	6	EA	FAN ASSEMBLY, LED COOLING, VLX WASH
20	22.9690.0140	7	EA	ASSY, CPC OPTIC
21	22.9690.0652	2	EA	ASSY, TILT TUBE
22	23.9690.0690	1	EA	AIR SENSOR, AMBIENT
23	24.9690.0570	7	EA	BOARD ASSY, VLX LED DRIVER
24	42.9690.0128	7	EA	LIGHT PIPE, HEX, GLASS
25	51.5039.0005	7	EA	THERMAL INTERFACE, LED, DIE CUT
26	53.2202.0004	14	EA	NUT, NYLOC, #4, SST
27	53.5655.0250	8	EA	SCREW, 6 X 1/4", PPZ PLASTIC THREADING

No.	Item	Qty.	UM.	Description
28	53.5804.0438	14	EA	SCREW 4-40 X 0.438" LG SH CAP ZINC
29	53.6575.0009	4	EA	SCREW, 8-32 X 3/8" LG PPB SEMS
30	53.6607.0002	3	EA	SCREW, 6-32 X 1/4" PFB
31	53.6609.0001	3	EA	SCREW, 6-32 X 3/8" PFZ
32	53.6682.0002	14	EA	SCREW, 4-40 X 1/4" LG PPZ SEMS
33	53.6682.0022	6	EA	SCREW, 8-32 X 3/8" LG PPZ SEMS
34	53.6682.0026	4	EA	SCREW, 8-32 X 3/4" LG PPZ SEMS
35	54.1206.0057	3	EA	RING, RETAINING, EXT, E-CLIP, 0.375" SHAFT Z
36	55.3301.0008	3	EA	WASHER, FLAT, #8, 0.032" THK, 0.375" OD
37	55.6568.0060	3	EA	SPRING, CPRSN, 0.438" OD, 2.00" LG, 0.024"WD, SS
38	55.6568.0113	14	EA	SPRING, CPRSN, 0.188" OD, 0.375" LG, 0.02"WD, SST
39	55.7005.0014	7	EA	O-RING, 9/16" ID, 3/4" OD, 3/32" THK, BUNA-N
40	88.8200.0001	7	EA	LED, RGBW, 32 MM X 32 MM

Head Assembly (continued)

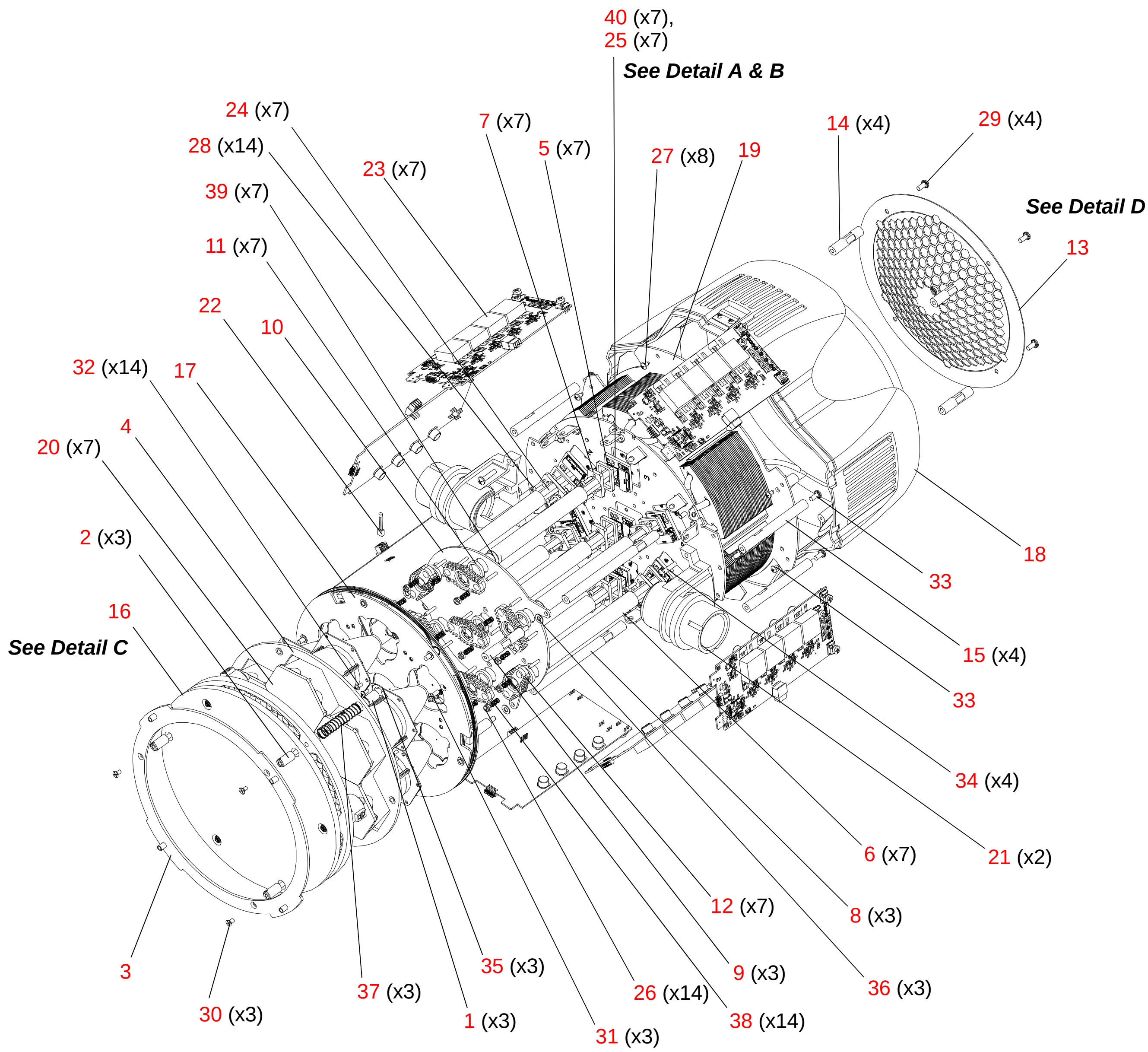
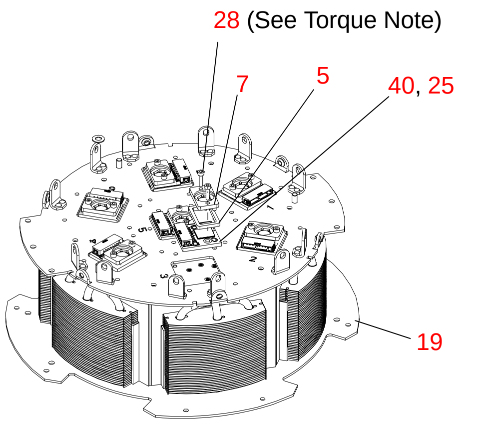


Figure 3-1: Head Structure Assembly (Part 1)

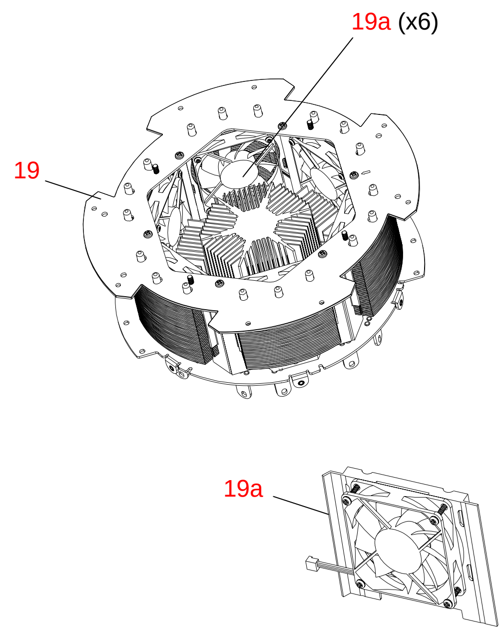
Head Assembly (continued)

Detail A

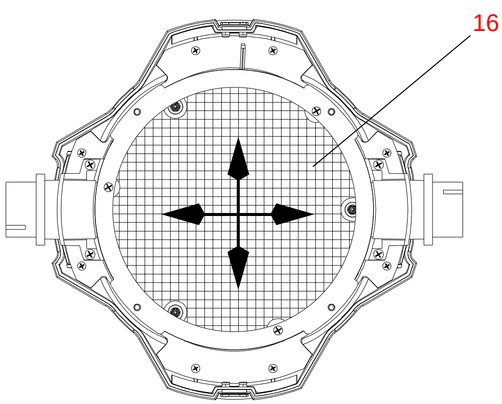


Torque Note: *Torque screws (28) to 80-in oz. in 14 places.*

Detail B



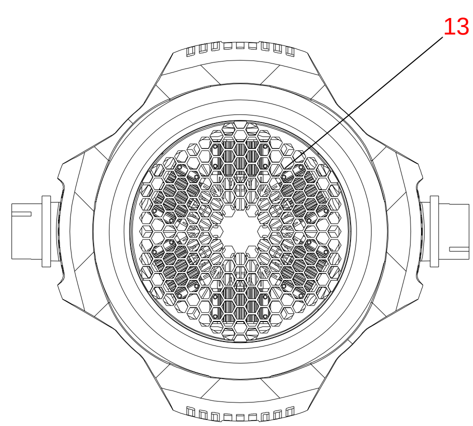
Detail C



Head Assembly (Front)

Install array lens assembly (16) with grid running up/down left/right as shown.

Detail D



Head Assembly (Rear)

Install rear grill (13) in orientation shown.

Figure 3-2: Head Structure Assembly (Part 2)

Zoom Array Assembly

21.9690.0105 Rev B

Refer to Figure 3-3

No.	Item	Qty.	UM.	Description
1	42.9690.0110	1	EA	LENS ARRAY, CONVEX
2	42.9690.0111	1	EA	LENS ARRAY, CONCAVE
3	44.9690.0130	3	EA	MOTOR, LINEAR ACT, JST CONN, VLX ZOOM
4	53.2009.0006	3	EA	NUT, 2-56 HEX SS NYLON INSERT
5	53.6602.0002	6	EA	SCREW, 4-40 X 3/16" LG PPZ TYPE F
6	55.3301.0003	6	EA	WASHER, #2 FLAT

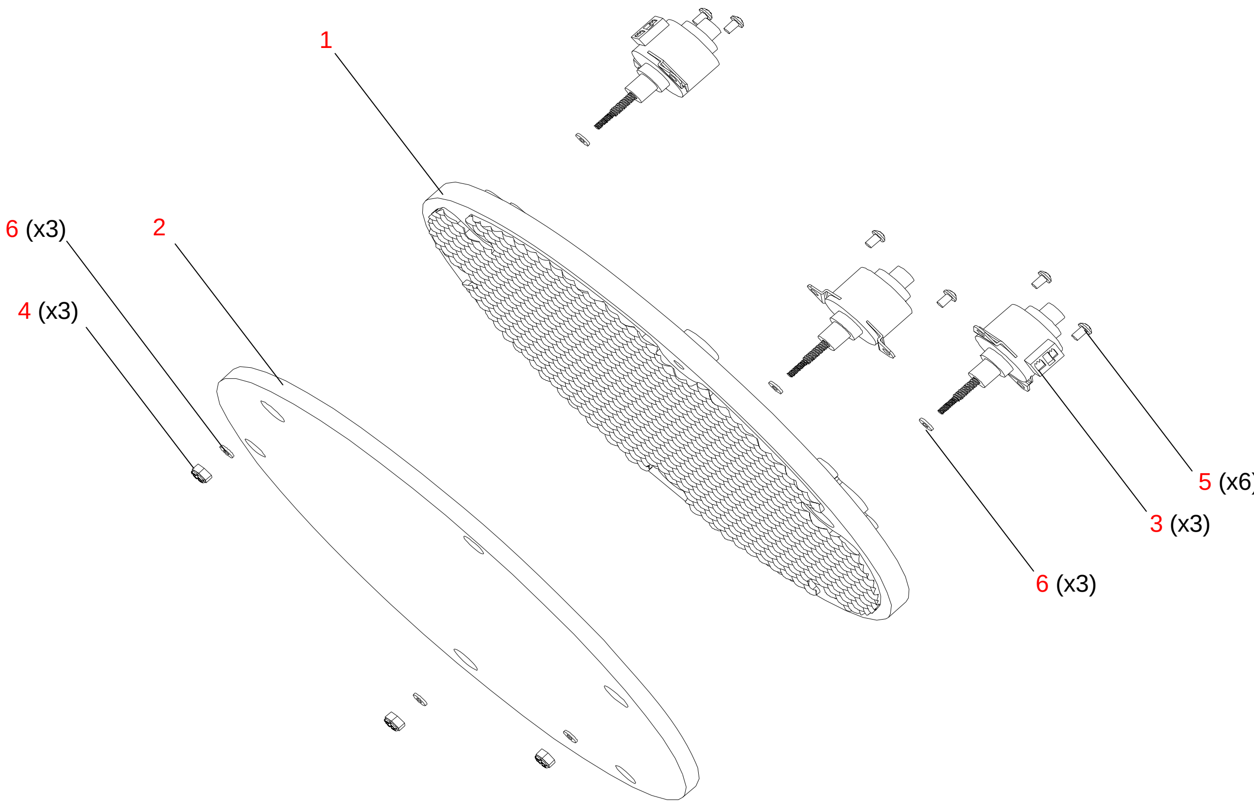


Figure 3-3: Zoom Array Assembly

Motherboard Support Assembly

21.9690.0334 Rev A

Refer to Figure 3-4

No.	Item	Qty.	UM.	Description
1	10.9690.0336	1	EA	HEAD COVER, REAR, MOLDED
2	24.9690.0575	1	EA	BOARD ASSY, VLX MOTHERBOARD
3	53.6544.0002	3	EA	SCREW, 8-32 X 3/4" PPZ
4	55.6524.0001	3	EA	WASHER, 0.312" OD, 0.171" ID, 0.063" THK, #8 NYLON

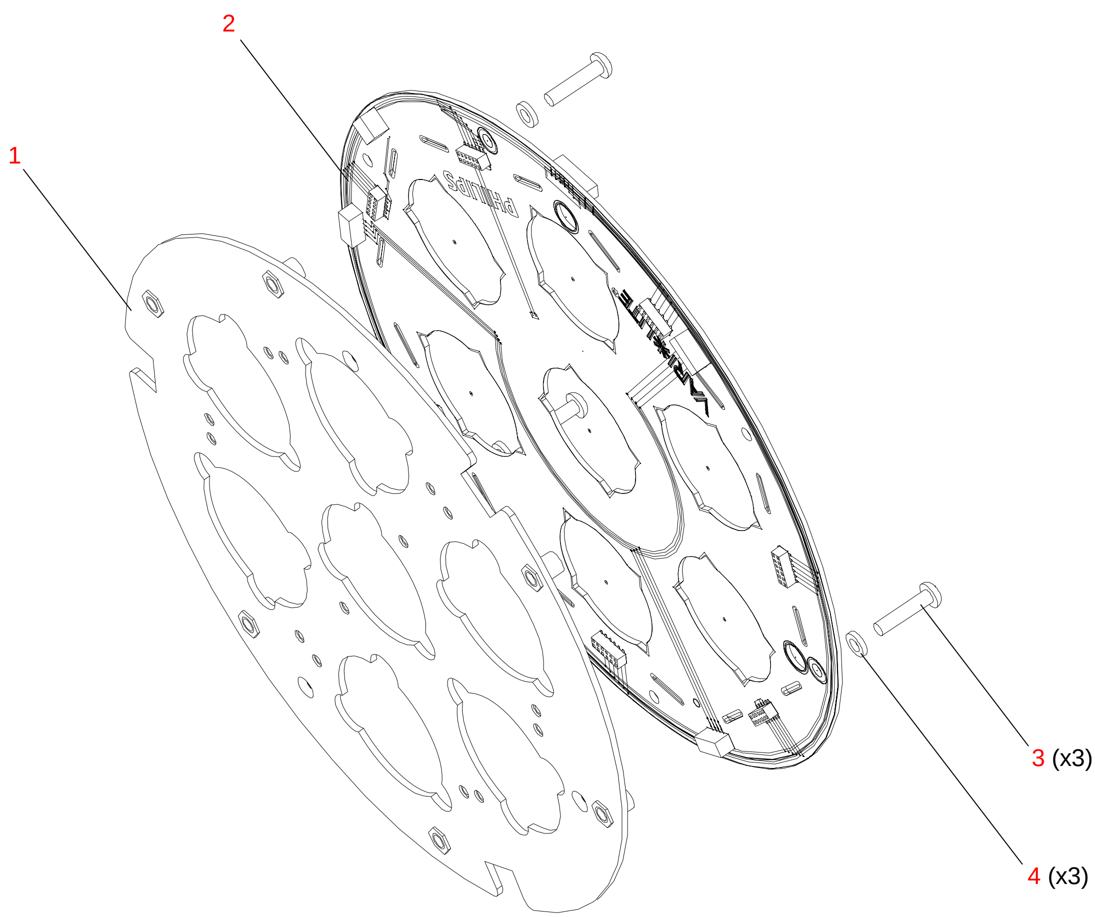


Figure 3-4: Motherboard Support Assembly

Rear Head Cover Assembly

21.9690.0615 Rev A

Refer to Figure 3-5

No.	Item	Qty.	UM.	Description
1	10.9690.0613	1	EA	HEAD COVER, REAR, MOLDED
2	10.9690.0631	2	EA	SCREEN, REAR COVER INLET, TOP
3	10.9690.0632	2	EA	SCREEN, REAR COVER INLET, SIDE
4	53.2202.0004	4	EA	NUT, 4-40 HEX SS NYLON INSERT
5	53.6551.0001	4	EA	SCREW, 4-40 X 3/8" PPB
6	54.1226.0002	2	EA	STRIKE, LATCH CATCH

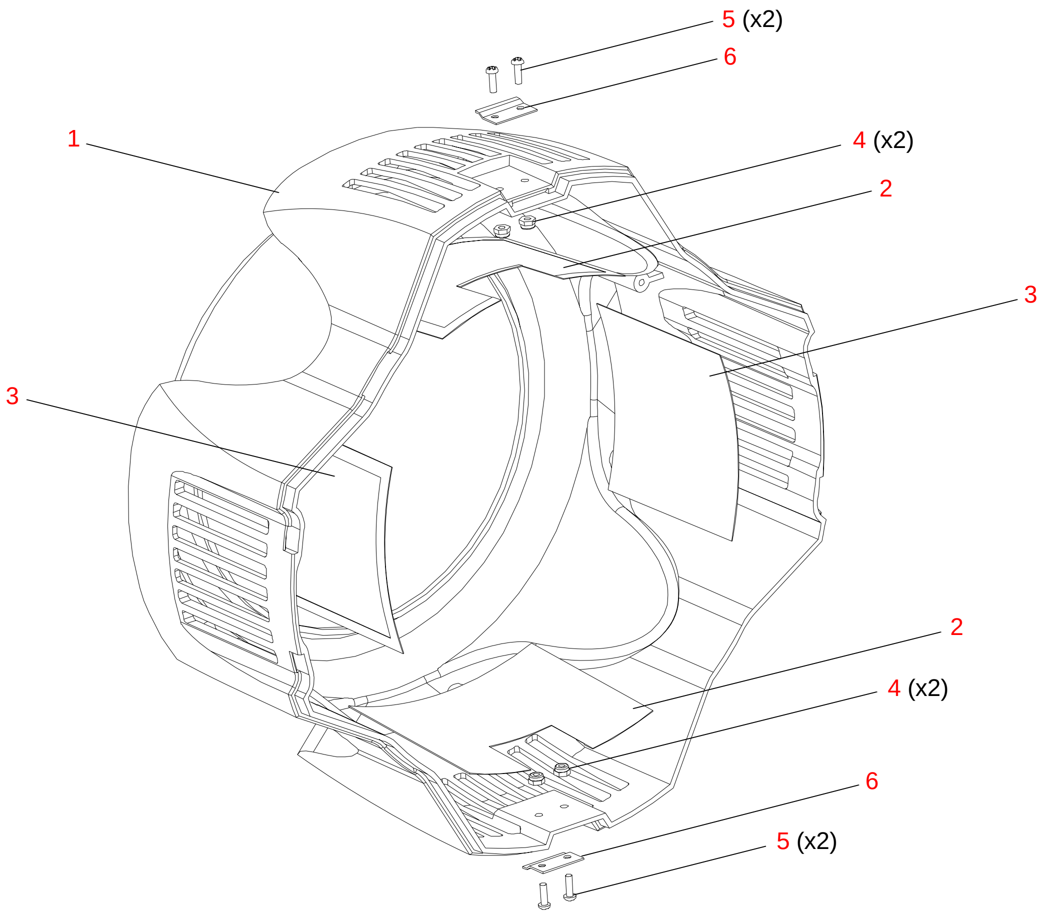


Figure 3-5: Rear Head Cover Assembly

Front Head Cover Assembly

21.9690.0612 Rev A

Refer to Figure 3-6

No.	Item	Qty.	UM.	Description
1	10.9690.0610	1	EA	HEAD COVER, FRONT, MOLDED
2	10.9690.0614	1	EA	TETHER, COVER
3	10.9690.0616	4	EA	FRAME, FOAM, HEAD COVER
4	10.9690.0617	4	EA	FOAM, AIR FILTER, HEAD COVER
5	10.9690.0618	1	EA	CLIP, COVER LANYARD
6	53.2202.0004	4	EA	NUT, 4-40 HEX SS NYLON INSERT
7	53.5655.0250	8	EA	SCREW, #6 X 1/4" PPZ PLASTIC THREADING
8	53.6551.0001	4	EA	SCREW, 4-40 X 3/8" PPB
9	54.1226.0001	2	EA	LATCH ASSY, VL5
10	55.2011.0003	2	EA	SNAP, SPRING, 3/16" EYE DIA

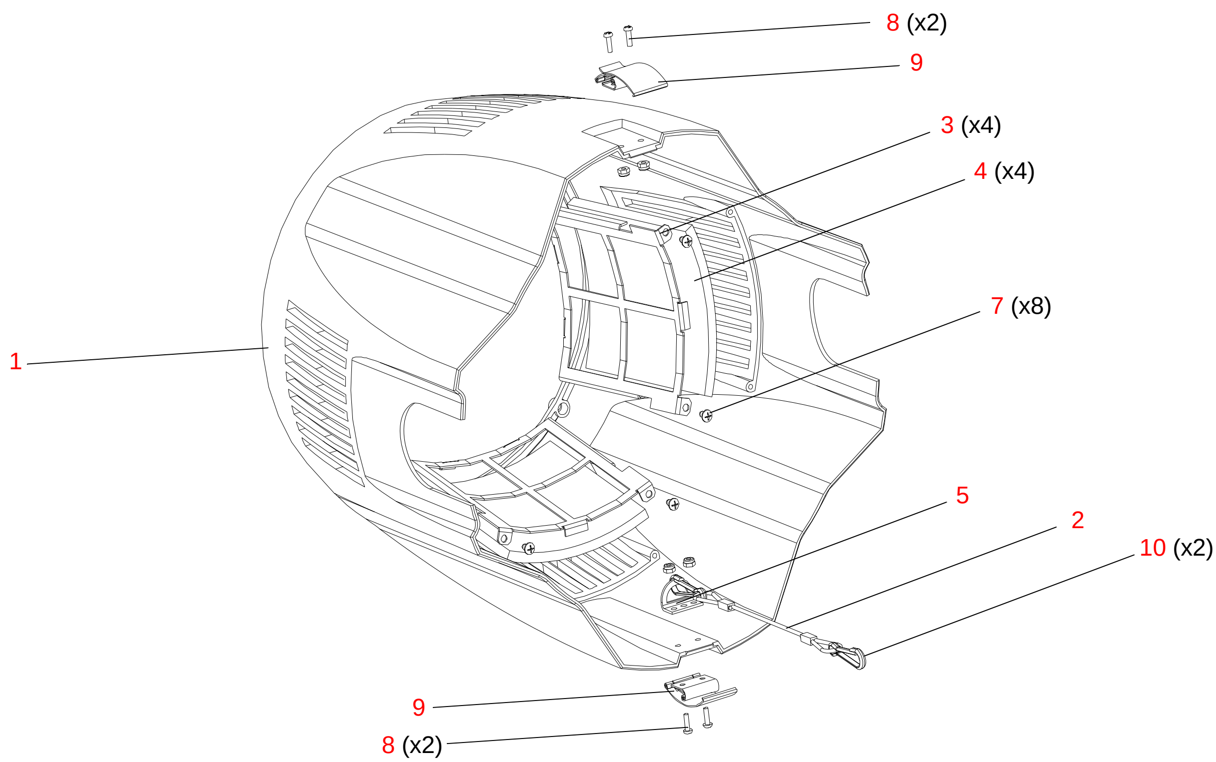


Figure 3-6: Front Head Cover Assembly

Yoke Assembly

VLX Wash Yoke Assembly

21.9690.0700 Rev F

Refer to Figure 3-7

No.	Item	Qty.	UM.	Description
1	10.9687.0600	1	EA	YOKE, PAN TUBE MOUNT
2	10.9690.0723	1	EA	CHANNEL, PAN MOUNT
3	21.9690.0715	1	EA	ASSY, TILT MOTOR
4	22.9690.0710	1	EA	ASSY, YOKE STRUCTURE
5	53.2200.0008	4	EA	NUT, 8-32 KEPS SS
6	53.6552.0002	10	EA	SCREW, 8-32 X 1/2" PFB
7	53.6558.0009	4	EA	SCREW, 6-32 X 3/8" PPZ SEMS
8	53.6593.0001	3	EA	SCREW, 10-32 X 1.00" PPB
9	53.6626.0001	2	EA	SCREW, 10-32 X 1/2" PPZ
10	55.2233.2001	4	EA	DZUS RAPIER MINI CLIP-ON RETAINER
11	55.3301.0008	4	EA	WASHER, #8 FLAT SS
12	55.6568.0056	1	EA	SPRING, CPRSN, 0.600" OD, 0.080" WIR
13	69.3178.0121	1	EA	POWER SUPPLY, 120W +24V 3X5

VLX Wash Yoke Assembly (continued)

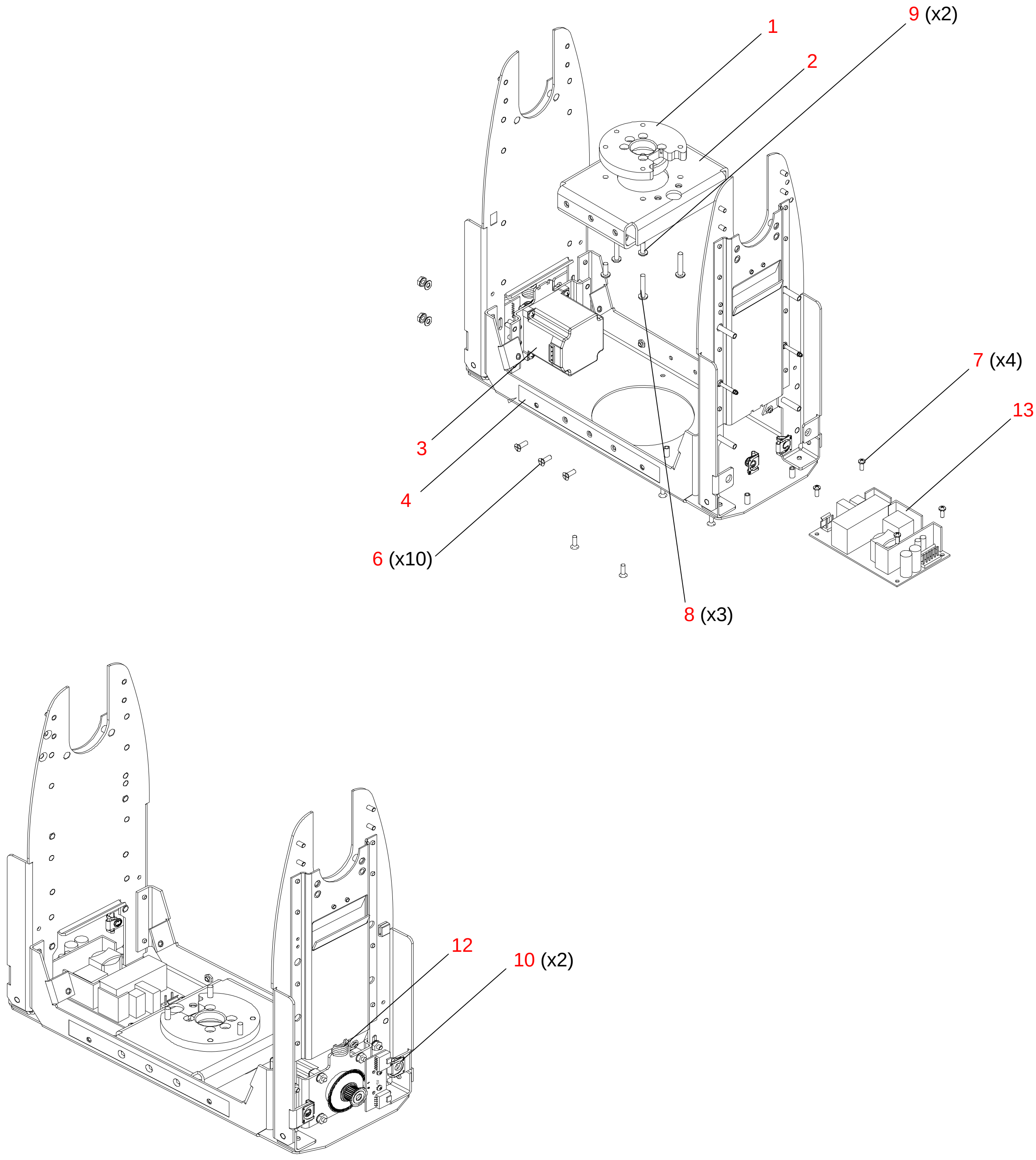


Figure 3-7: VLX Wash Yoke Assembly

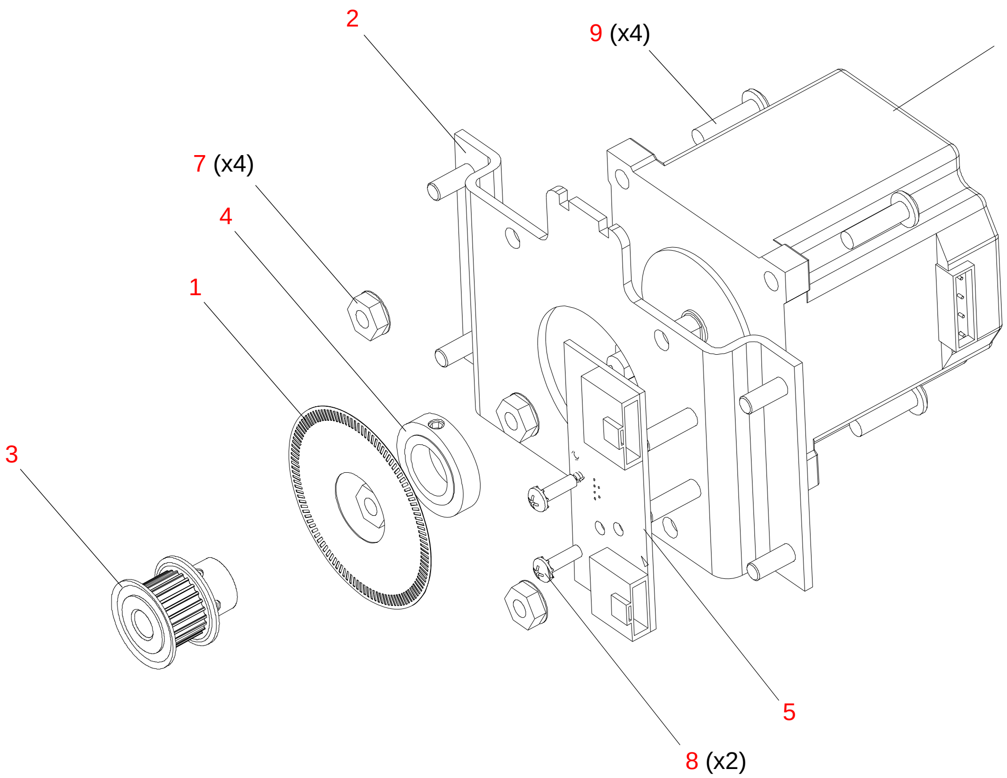
Tilt Motor Assembly

21.9690.0715 Rev C

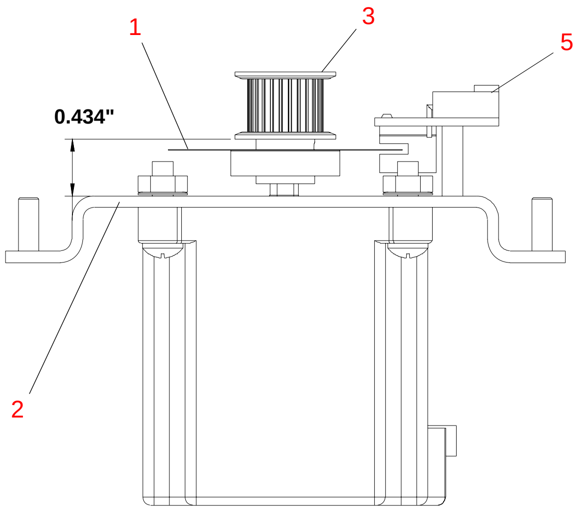
Refer to Figure 3-8

No.	Item	Qty.	UM.	Description
1	10.9678.8720	1	EA	CODEWHEEL, 120 COUNT, LARGE ID
2	10.9690.0740	1	EA	TILT MOTOR MOUNT
3	10.9690.0741	1	EA	TILT PULLEY, DRIVING
4	10.9690.0742	1	EA	ENCODER COLLET
5	24.9678.9729	1	EA	PCB ASSY, PAN/TILT ENCODER
6	44.9678.0680	1	EA	MOTOR, 3-PHASE, SZ 23 HIGH TORQUE
7	53.2200.0008	4	EA	NUT, 8-32 KEPS SS
8	53.6520.0375	2	EA	SCREW, 4-40 X 3/8" PPZ SEMS
9	53.6546.0001	4	EA	SCREW, 8-32 X 5/8" PPB

Tilt Motor Assembly (continued)



Pulley Height Detail & Installation



Step 1. Apply one drop of Loctite 603 to motor shaft.

Step 2. Install drive pulley on motor shaft using twisting motion to insure coverage of shaft with loctite.

Step 3. Do not allow Loctite to drip into motor bearing.

Step 4. Set pulley height as shown above.

Step 5. Apply Loctite 242 to pulley set screws. Insure set screws are properly aligned and tightened on flat sides of motor shaft.

Note: Vari-Lite recommends that this assembly be replaced as a complete assembly. Although you can replace only the motor, the pulley (Item 3) is bonded to the motor shaft during assembly and cannot be removed intact. If you order a replacement motor (Item 6), also order the pulley (Item 3). Contact Vari-Lite Customer Service for installation information.

Figure 3-8: Tilt Motor Assembly

Enclosure Assembly

VLX Wash Upper Enclosure Assembly

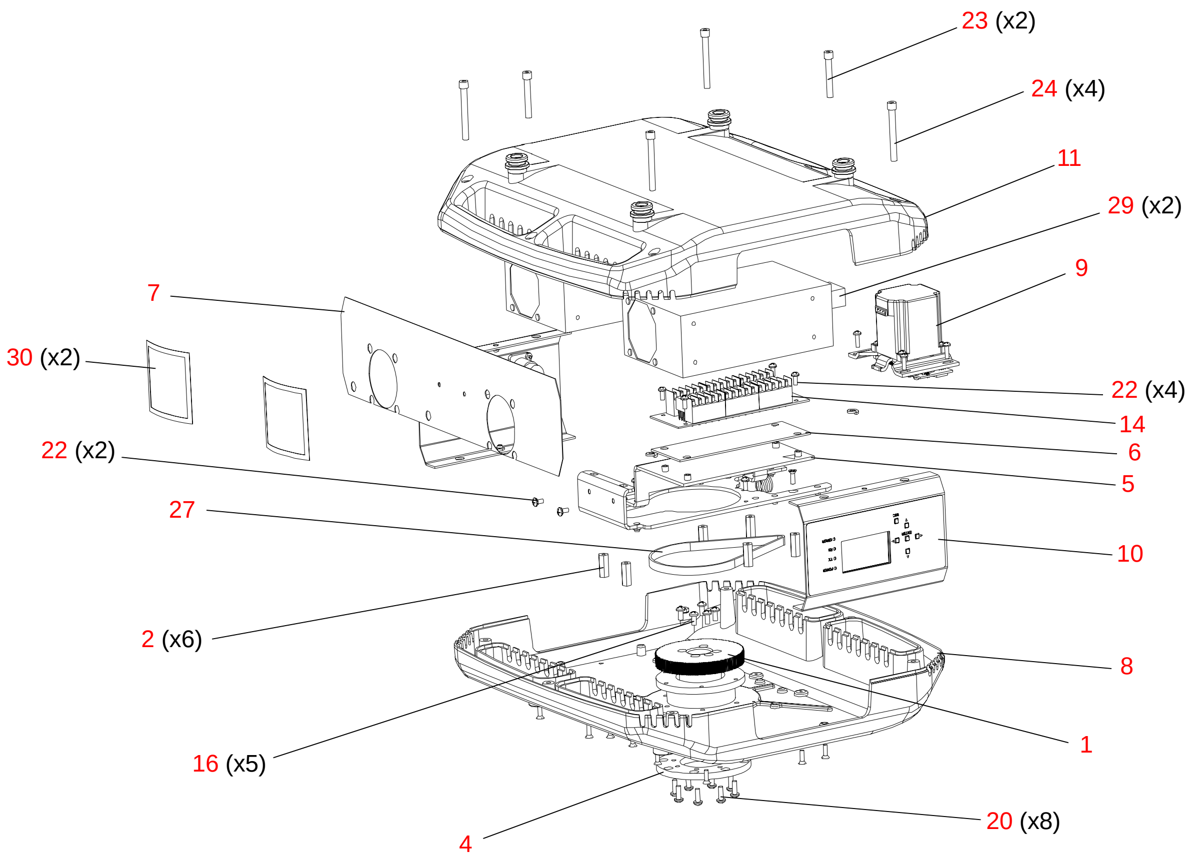
21.9690.0800 Rev I

Refer to Figure 3-9 and Figure 3-10

No.	Item	Qty.	UM.	Description
1	10.9687.0604	1	EA	TIMING PULLEY, 150 TOOTH
2	10.9690.0800	6	EA	HEX STANDOFF
3	10.9690.0804	1	EA	MOTOR ADJ PLATE
4	10.9690.0806	1	EA	BEARING/LOCK HOLDER
5	10.9690.0814	1	EA	DC DISTRO MOUNT
6	10.9690.0818	1	EA	DC DISTRO INSULATOR
7	10.9690.1822	1	EA	VLX AIR DAM
8	12.9690.0018	1	EA	VLX CASTING MACHINING
9	21.9690.0540	1	EA	ASSY, PAN MOTOR
10	21.9690.0802	1	EA	ASSY, DISPLAY, VLX WASH
11	21.9690.0803	1	EA	VLX BASE SUB ASSY
12	21.9690.0804	1	EA	ASSY, CONNECTOR, VLX WASH
13	22.9690.0800	1	EA	ASSY, PAN TUBE, VLX WASH
14	24.9690.0860	1	EA	ASSY, DC DISTRO
-	25.9690.0511	1	EA	CABLE ASSY, 12V OUTPUT 1 (**not shown**)
-	25.9690.0512	1	EA	CABLE ASSY, 12V OUTPUT 2 (**not shown**)
-	25.9690.1550	1	EA	CABLE ASSY, VLX DATA I/O LINK (**not shown**)
-	25.9690.1553	1	EA	VLX DISPLAY LINK (**not shown**)
-	25.9690.1556	1	EA	CABLE ASSY, PAN/TILT, VLX WASH (**not shown**)
-	25.9690.0572	1	EA	CABLE ASSY, VLX DISPLAY LINK (**not shown**)
-	25.9690.1501	1	EA	NEG WIRE - DRIVE BRD #1 (**not shown**)
-	25.9690.1502	1	EA	NEG WIRE - DRIVE BRD #2 (**not shown**)
-	25.9690.1503	1	EA	NEG WIRE - DRIVE BRD #3 (**not shown**)
-	25.9690.1504	1	EA	NEG WIRE - DRIVE BRD #4 (**not shown**)
-	25.9690.1505	1	EA	NEG WIRE - DRIVE BRD #5 (**not shown**)
-	25.9690.1506	1	EA	NEG WIRE - DRIVE BRD #6 (**not shown**)
-	25.9690.1507	1	EA	NEG WIRE - DRIVE BRD #7 (**not shown**)
-	25.9690.1509	4	EA	POSITIVE WIRES, DRIVE BRD TILT MOTOR SIDE (**not shown**)

No.	Item	Qty.	UM.	Description
-	25.9690.1510	3	EA	POSITIVE WIRES, DRIVE BRD MCB SIDE (**not shown**)
-	25.9690.3552	1	EA	CABLE ASSY, A/C SUPPLY #1, VLX WASH (**not shown**)
15	53.2200.0008	1	EA	NUT, 8-32 KEPS SS
16	53.6517.0001	5	EA	SCREW, 10-32 X 3/8" PPZ
17	53.6521.0001	4	EA	SCREW, 8-32 X 1/2" PPB
18	53.6552.0001	2	EA	SCREW, 8-32 X 1/2" PFZ
19	53.6552.0002	8	EA	SCREW, 8-32 X 1/2" PFB
20	53.6626.0001	8	EA	SCREW, 10-32 X 1/2" PPZ
21	53.6627.0001	5	EA	SCREW, 10-32 X 5/8" PPB
22	53.6682.0022	12	EA	SCREW, 8-32 X 3/8" PPZ SEMS
23	53.7017.1500	2	EA	BOLT, 0.25-20 X 1.50" ALLEN HEAD
24	53.7017.2000	4	EA	BOLT, 0.25-20 X 2.00" ALLEN HEAD
25	53.9690.0050	8	EA	SCREW, M4 X 12MM PFB
26	53.9690.0051	1	EA	SCREW, 8-32 X 3/4" PFB
27	54.2069.0100	1	EA	BELT, 200 GROOVE, GT-2 MM
28	55.6568.0056	1	EA	SPRING, CPRSN, 0.600" OD, 0.080" WIR
29	69.3180.0600	2	EA	POWER SUPPLY, 12VDC 600W
30	10.9690.0632	2	EA	SCREEN, SMALL, VLX

VLX Wash Upper Enclosure Assembly (continued)



Enclosure Cover Screws Reference

19	53.6552.0002	SCREW, 8-32 X 1/2" PFB
25	53.9690.0050	SCREW, M4 X 12MM PFB
26	53.9690.0051	SCREW, 8-32 X 3/4" PFB

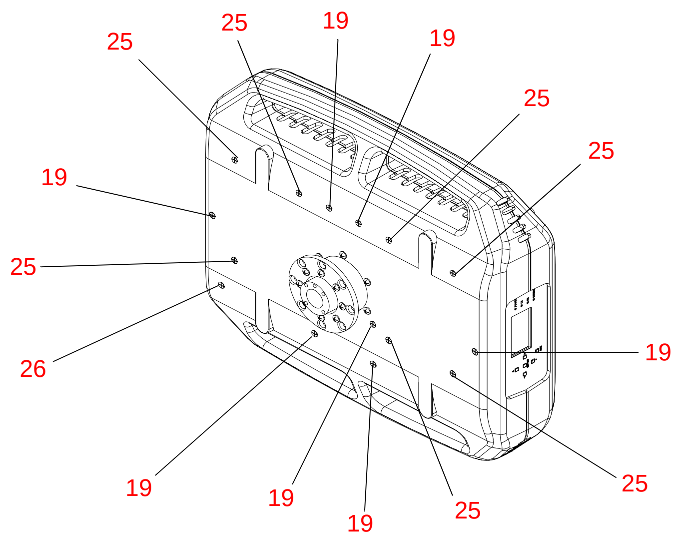


Figure 3-9: VLX Wash Upper Enclosure Assembly Part 1

VLX Wash Upper Enclosure Assembly (continued)

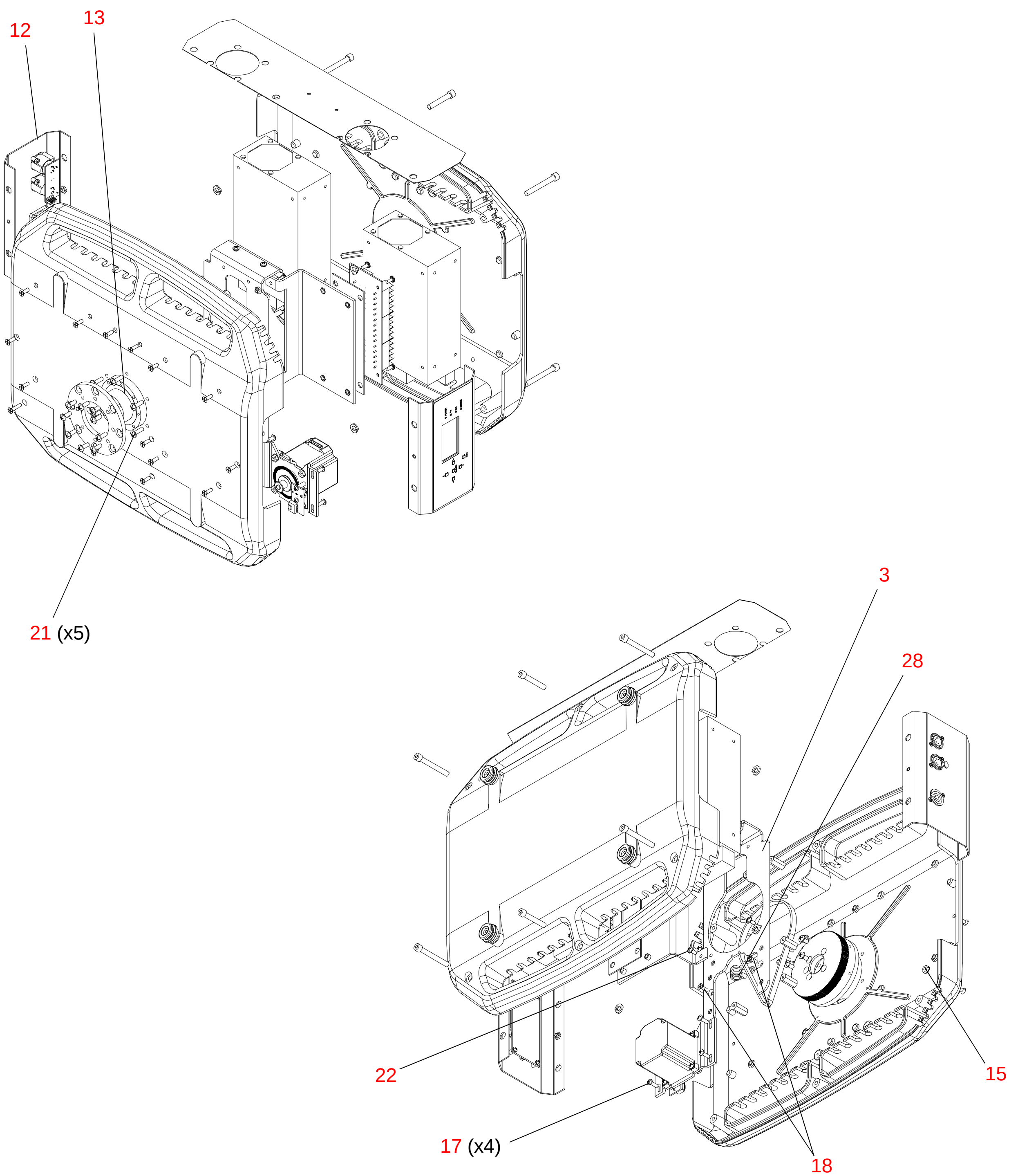


Figure 3-10: VLX Wash Upper Enclosure Assembly Part 2

VLX Wash Base Sub-Assembly

21.9690.0803 Rev B

Refer to Figure 3-11

No.	Item	Qty.	UM.	Description
1	10.9690.0803	4	EA	MOUNTING BUTTON
2	12.9690.0019	1	EA	VLX CASTING MACHINING
3	53.7017.0750	4	EA	BOLT, 0.25-20 X 0.75", ALLEN HEAD
4	55.6549.0001	4	EA	WASHER, 1/4" SPLIT LOCK

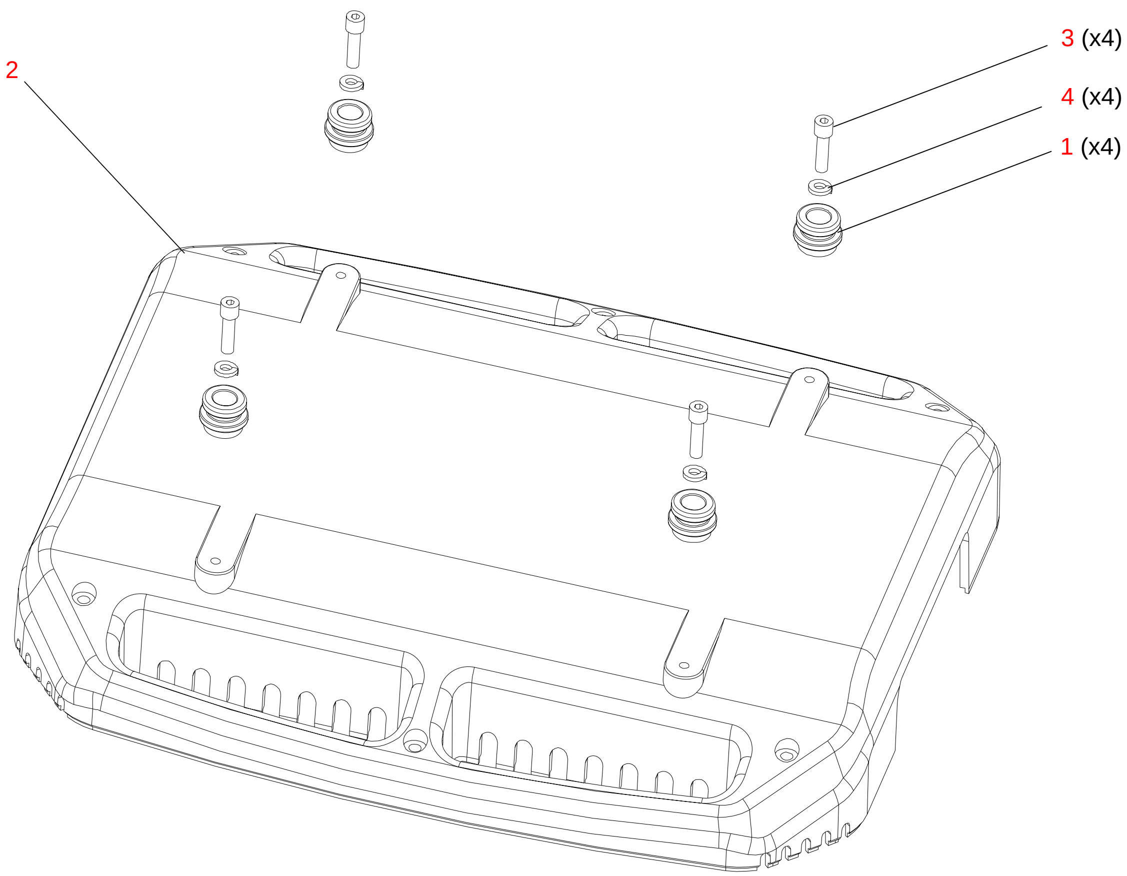


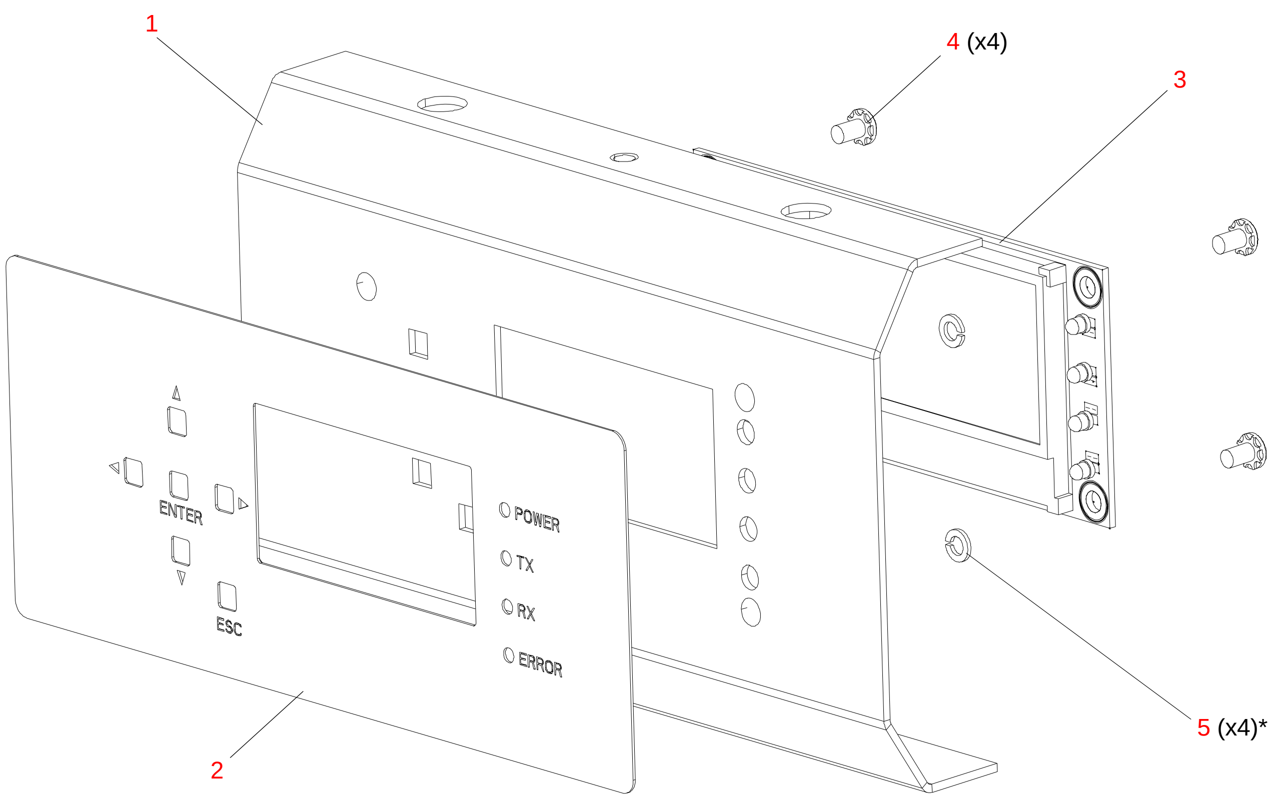
Figure 3-11: Ventilation Cover Assembly - Standard

VLX Wash Display Assembly

21.9690.0802 Rev C

Refer to Figure 3-12

No.	Item	Qty.	UM.	Description
1	10.9690.0801	1	EA	DISPLAY MOUNTING PLATE
2	10.9690.0817	1	EA	OVERLAY, DISPLAY, VLX WASH
3	24.9690.0580	1	EA	ASSY, DISPLAY, VLX WASH
4	53.6558.0010	4	EA	SCREW, 6-32 X 1/4" PPB SEMS
5	55.6627.0001	4	EA	WASHER, #6 SPLIT LOCK



Note: * Item 5 mounts between Items 1 and 3

Figure 3-12: VLX Wash Display Assembly

VLX Wash Connector Assembly

21.9690.0804 Rev. C

Refer to Figure 3-13

No.	Item	Qty.	UM.	Description
1	10.9690.1802	1	EA	CONNECTOR PLATE
2	24.9663.3895	1	EA	PCB ASSY, DMX INPUT
3	25.9690.2551	1	EA	CABLE ASSY, INPUT, VLX WASH
4	53.2003.0001	6	EA	NUT, 4-40 KEP ZINC PLATED
5	53.6598.0001	6	EA	SCREW, 4-40 X 3/8" PFB

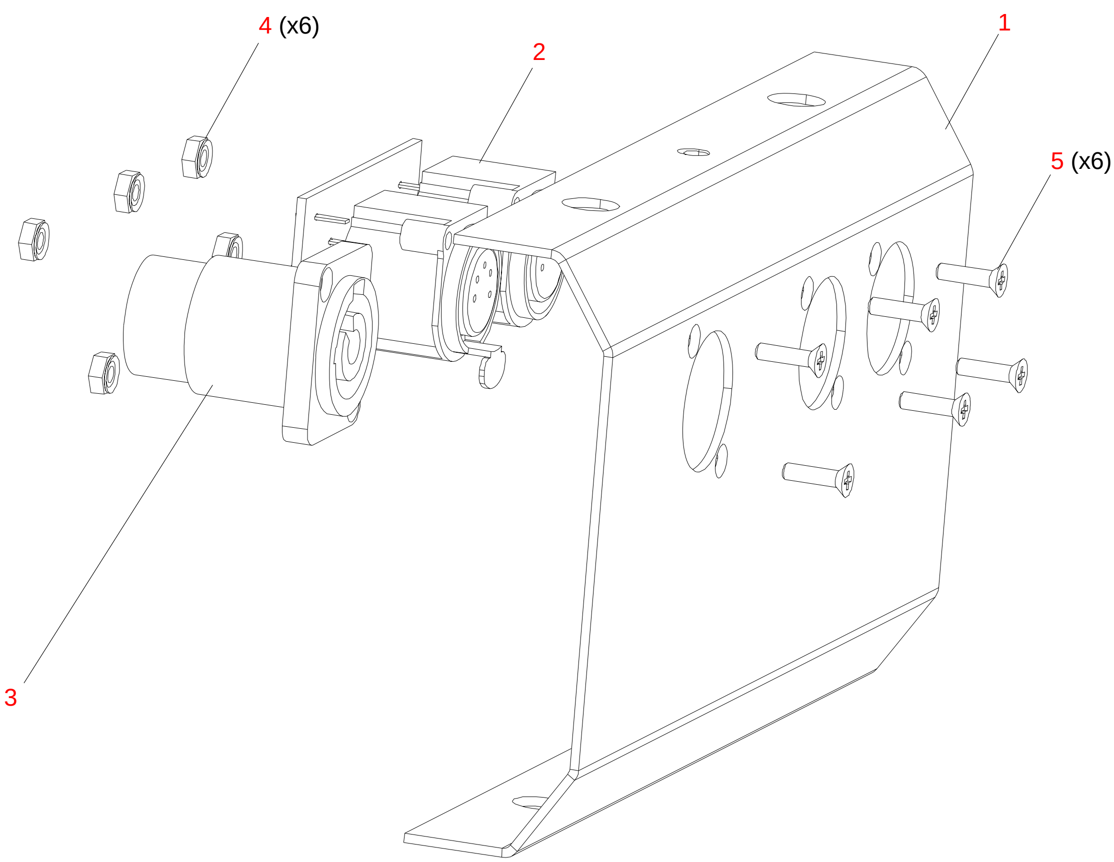


Figure 3-13: VLX Wash Connector Assembly

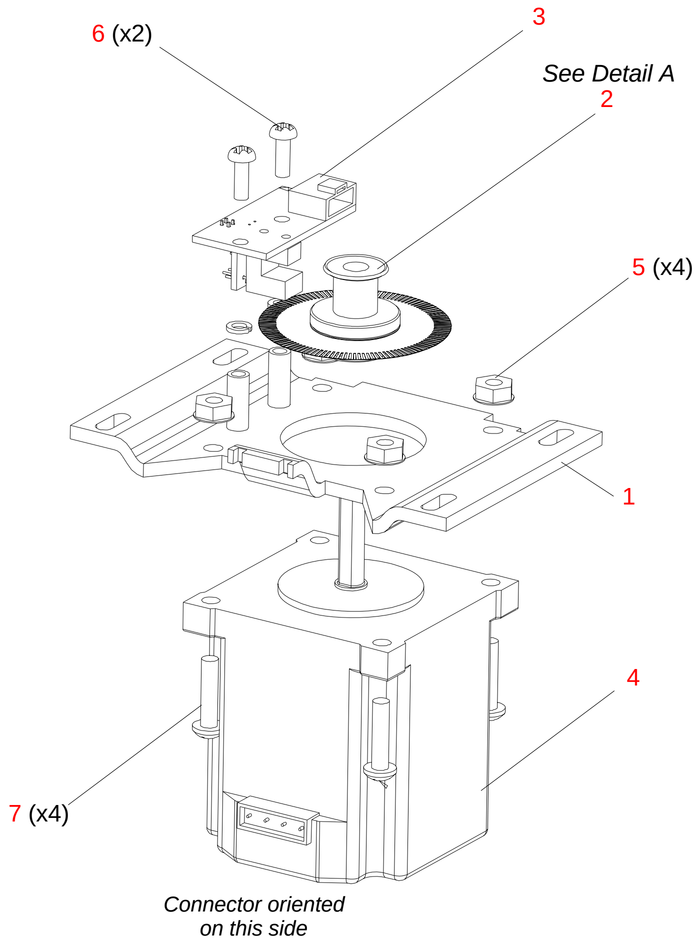
Pan Motor Assembly

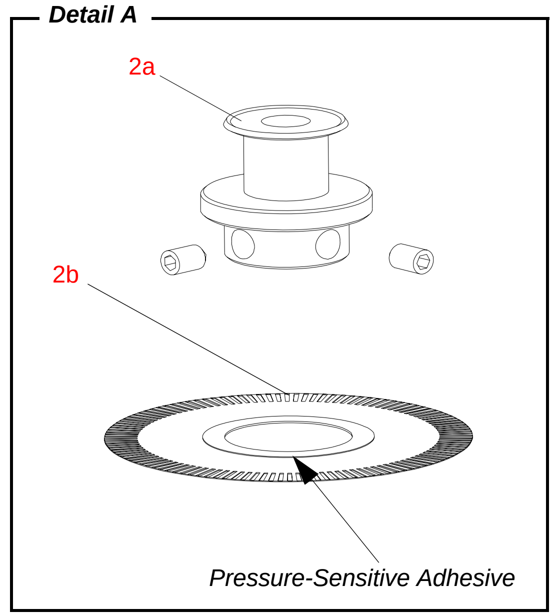
21.9690.0540 Rev 0

Refer to Figure 3-14

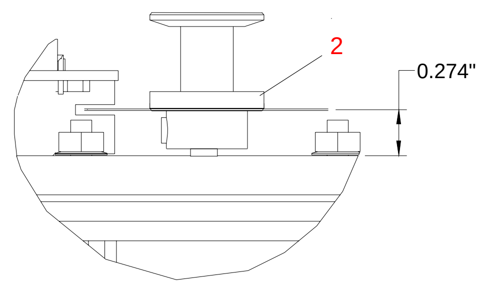
No.	Item	Qty.	UM.	Description
1	10.9690.0805	1	EA	PAN MOTOR MOUNT
2	21.9685.0545	1	EA	ASSY, DRIVE PULLEY
	10.9678.8720	1	EA	CODEWHEEL
	10.9685.0524	1	EA	18 TOOTH 2 MM TIMING PULLEY WITH SET SCREWS
3	24.9685.7735	1	EA	BOARD ASSY, PAN/TILT ENCODER
4	44.9678.0680	1	EA	MOTOR, 3-PHASE SZ 23 HIGH TORQUE
5	53.2200.0008	4	EA	NUT, 8-32 KEPS SS
6	53.6558.0001	2	EA	SCREW, 6-32 X 3/8" PPZ
7	53.6575.0004	4	EA	SCREW, 8-32 X 5/8" PPZ
8	55.6627.0001	2	EA	WASHER, #6 SPLIT LOCK

Pan Motor Assembly (continued)





Drive Pulley Detail & Installation



Step 1. Apply one drop of Loctite 603 to motor shaft.

Step 2. Install drive pulley on motor shaft using twisting motion to insure coverage of shaft with loctite.

Step 3. Do not allow Loctite to drip into motor bearing.

Step 4. Set pulley height as shown above.

Step 5. Apply Loctite 242 to pulley set screws. Insure set screws are aligned and tightened on flat sides of motor shaft.

Note: Vari-Lite recommends that this assembly be replaced as a complete assembly. Although you can replace only the motor, the pulley (Item 2) is bonded to the motor shaft during assembly and cannot be removed intact. If you order a replacement motor (Item 4), also order the pulley (Item 2). Contact Vari-Lite Customer Service for installation information.

Figure 3-14: Pan Motor Assembly

VLX Wash Pan Tube Assembly

22.9690.0800 Rev B

Refer to Figure 3-15

No.	Item	Qty.	UM.	Description
1	10.9687.0601	1	EA	PAN TUBE, OUTER
2	10.9687.0602	1	EA	PAN TUBE STOP SCREW
3	10.9687.0603	1	EA	PAN TUBE INTER SHAFT
4	53.9690.0001	2	EA	SCREW, 10-32 SOCKET HEAD CAP, 0.250
5	54.1259.0011	2	EA	PAN BEARING
6	55.2023.0003	1	EA	0.25" DIA S2 TOOL STEEL

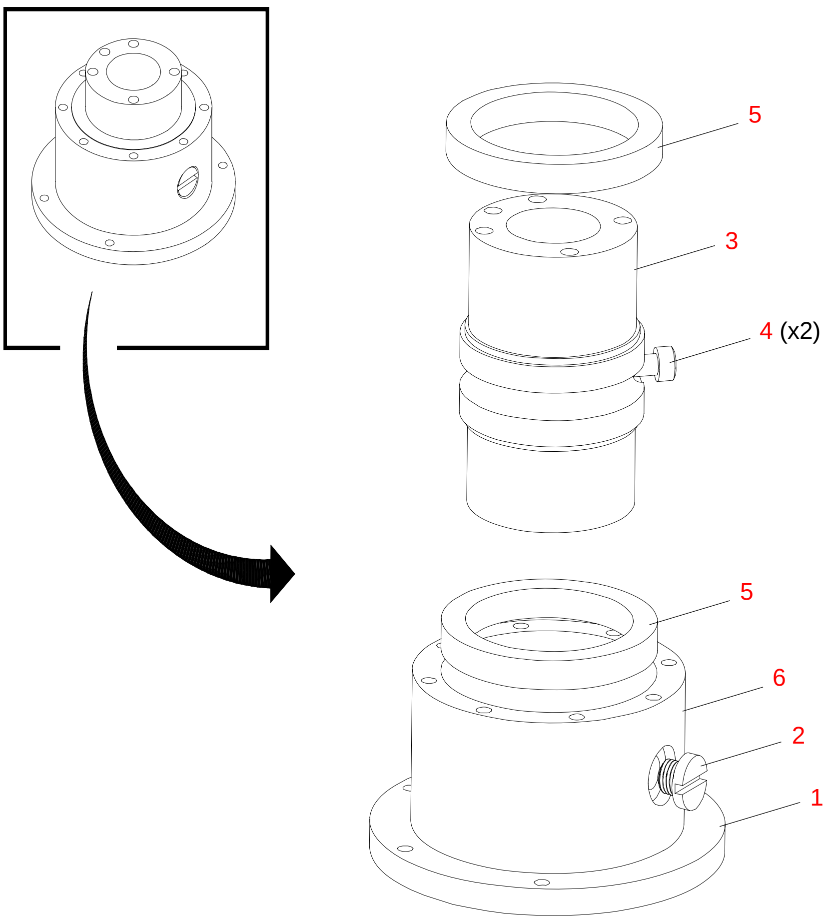


Figure 3-15: VLX Wash Pan Tube Assembly

Cable Assemblies

Note: Cables are only available as complete assemblies. The information contained in this section is for reference only.

VLX Wash 24V Supply Cable Assembly

25.9690.0554 Rev C

Refer to Figure 3-16

No.	Item	Qty.	UM.	Description
1	52.6442.2003	1	EA	RECEPT, 3POS MTA 156 W/TAB YEL (20AWG)
2	52.6442.2006	1	EA	RECEPT, 6POS MTA 156 W/TAB YEL (20AWG)
3	73.7137.0011	3	IN	WIRE, 20AWG 600V 200 DEG C FEP RED STRAND 105/40 0.06 DIA
4	73.7137.0012	3	IN	WIRE, 20AWG 600V 200 DEG C FEP BLK STRAND 105/40 0.06 DIA

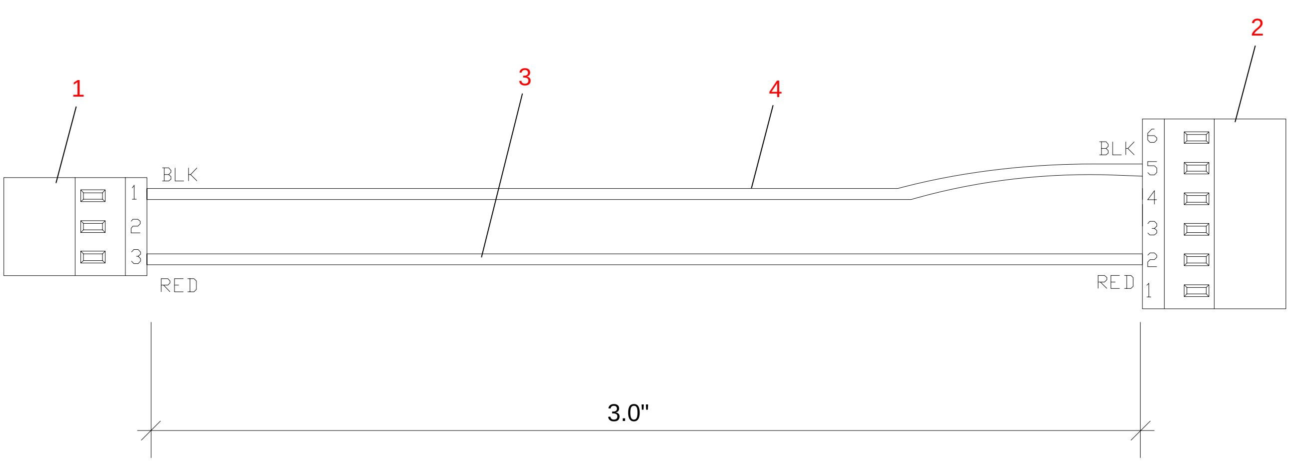


Figure 3-16: VLX Wash 24V Supply Cable Assembly

VLX Wash Zoom Motors Cable Assembly

25.9690.0558 Rev C

Refer to Figure 3-17

No.	Item	Qty.	UM.	Description
1	-	1	EA	CONN HOUSING, PH SERIES (JST), 4 POS, 2MM, WHITE
2	-	4	EA	CONTACT, TERMINAL 28-24 AWG, TIN-JST
3	52.6224.1034	1	EA	COVER, FRONT, 34 POS MT LATCHING
4	52.6224.2034	1	EA	COVER, BACK, 34 POS MT
5	52.6610.0034	1	EA	CONN, HOUSING, 34 POS DBL ROW UNLOADED
6	73.2326.0123	28	IN	WIRE, 26 AWG 4 COND 300V 200 DEG C TEF (BLK-BRN-RED-ORG)

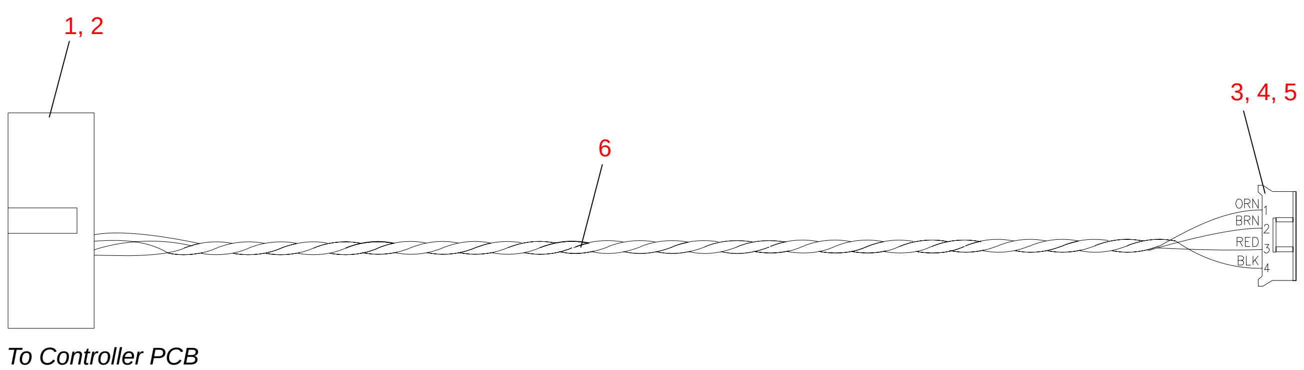


Figure 3-17: VLX Wash Zoom Motors Cable Assembly

VLX Wash LED Drive Cable Assembly

25.9690.1557 Rev A

Refer to Figure 3-18

No.	Item	Qty.	UM.	Description
1	-	1	EA	CONN, FEMALE 6 POS, 30-24 AWG, PHR (JST)
2	-	6	EA	CONTACT, SOCKET, 30-24 AWG CRIMP (REEL) PH (JST)
3	-	26	IN	CABLE, 24 AWG STRND, 2 COND, PVC INSUL, BLU/YEL TWISTED
4	-	26	IN	CABLE, 24 AWG STRND, 2 COND, PVC INSUL, WHT/ORN TWISTED
5	-	1	EA	CONN, HSG MOD IV, 0.100 X 0.100 CL, 8 POS
6	-	6	EA	CONTACT, FEMALE, MOD IV, CRIMP SNAP-IN
7	-	26	IN	CABLE, 24 AWG STRND, PVC INSUL, BLACK
8	-	26	IN	CABLE, 24 AWG STRND, PVC INSUL, RED
9	55.2186.0001	3	EA	CABLE TIE, 0.10" WD X 4.00" LG, SMALL

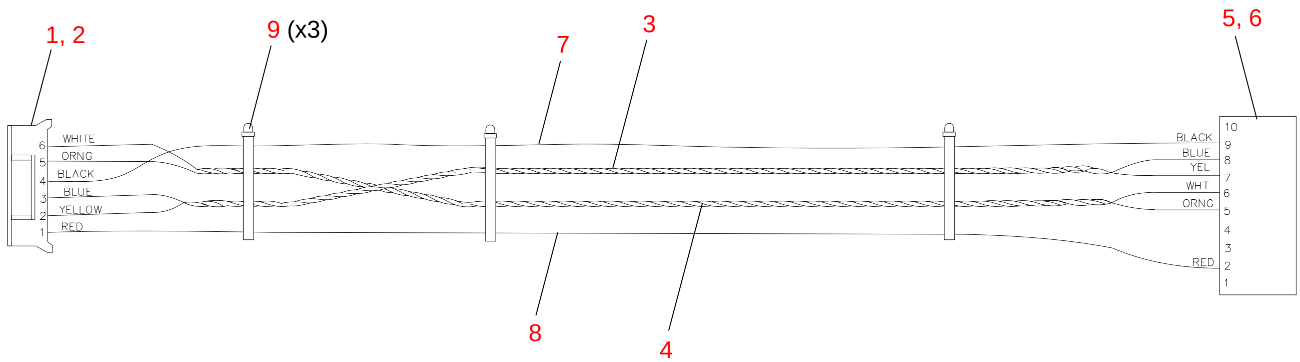


Figure 3-18: VLX Wash LED Drive Cable Assembly

VLX Wash 12V Output 1 Cable Assembly

25.9690.0511 Rev B

Refer to Figure 3-19

No.	Item	Qty.	UM.	Description
1	-	4	EA	RING TERMINAL, 12-10 AWG, #10 HOLE SIZE, INSUL PV12-10HDR-L
2	-	4	EA	FORK TERMINAL, 12-10 AWG, #6 STUD SIZE, INSUL PV10-6F-L
3	-	44	IN	WIRE, 10 AWG, TEFLON COATED, 600V 105 DEG C (RED)
4	-	48	IN	WIRE, 10 AWG, TEFLON COATED, 600V 105 DEG C (BLACK)
5	55.2186.0001	3	EA	CABLE TIE, 0.10" WD X 4.00" LG, SMALL

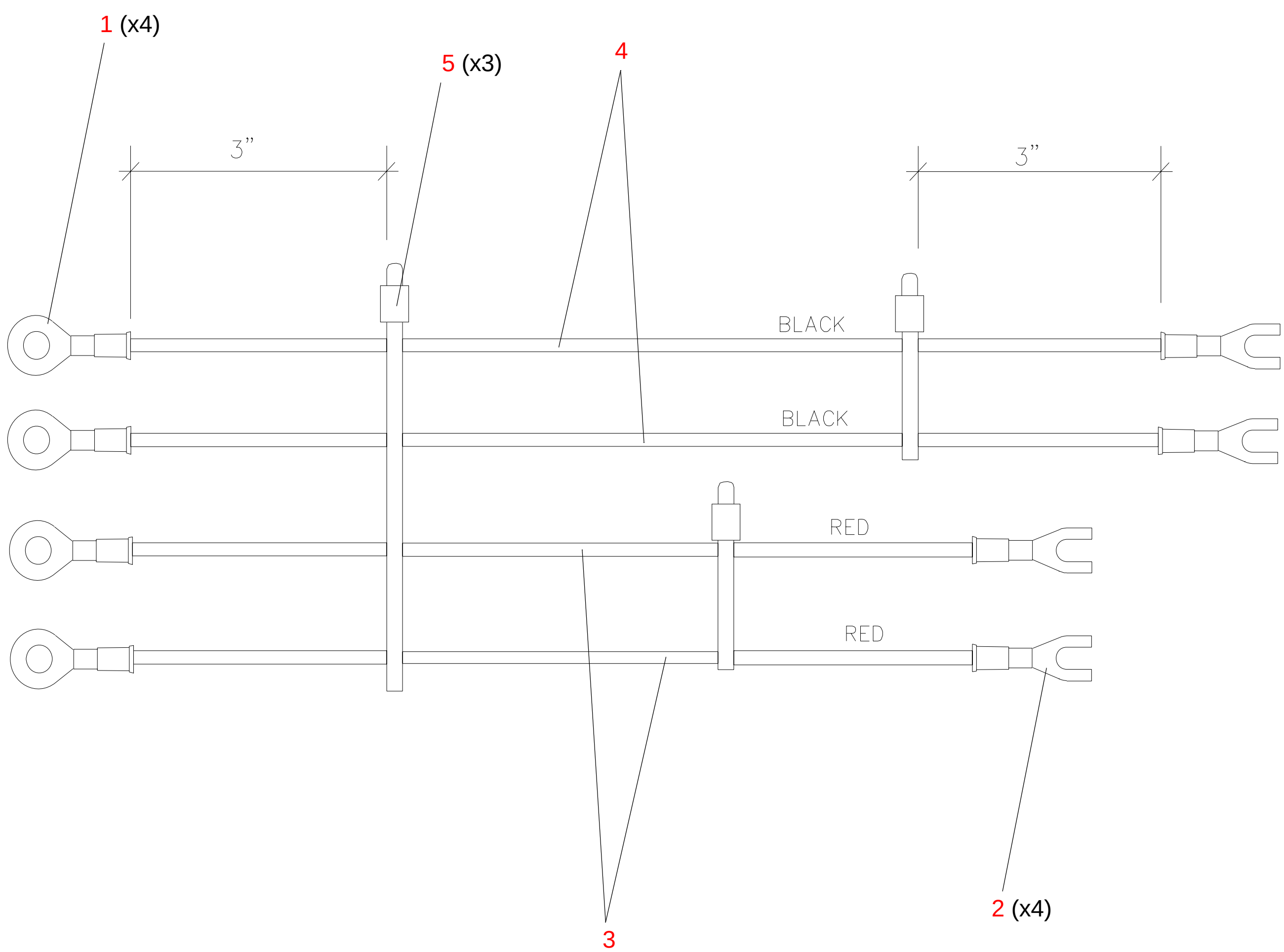


Figure 3-19: VLX Wash 12V Output 1 Cable Assembly

VLX Wash 12V Output 2 Cable Assembly

25.9690.0512 Rev B

Refer to Figure 3-20

No.	Item	Qty.	UM.	Description
1	-	4	EA	RING TERMINAL, 12-10 AWG, #10 HOLE SIZE, INSUL PV12-10HDR-L
2	-	4	EA	FORK TERMINAL, 12-10 AWG, #6 STUD SIZE, INSUL PV10-6F-L
3	-	22	IN	WIRE, 10 AWG, TEFLON COATED, 600V 105 DEG C (RED)
4	-	16	IN	WIRE, 10 AWG, TEFLON COATED, 600V 105 DEG C (BLACK)
5	55.2186.0001	3	EA	CABLE TIE, 0.10" WD X 4.00" LG, SMALL

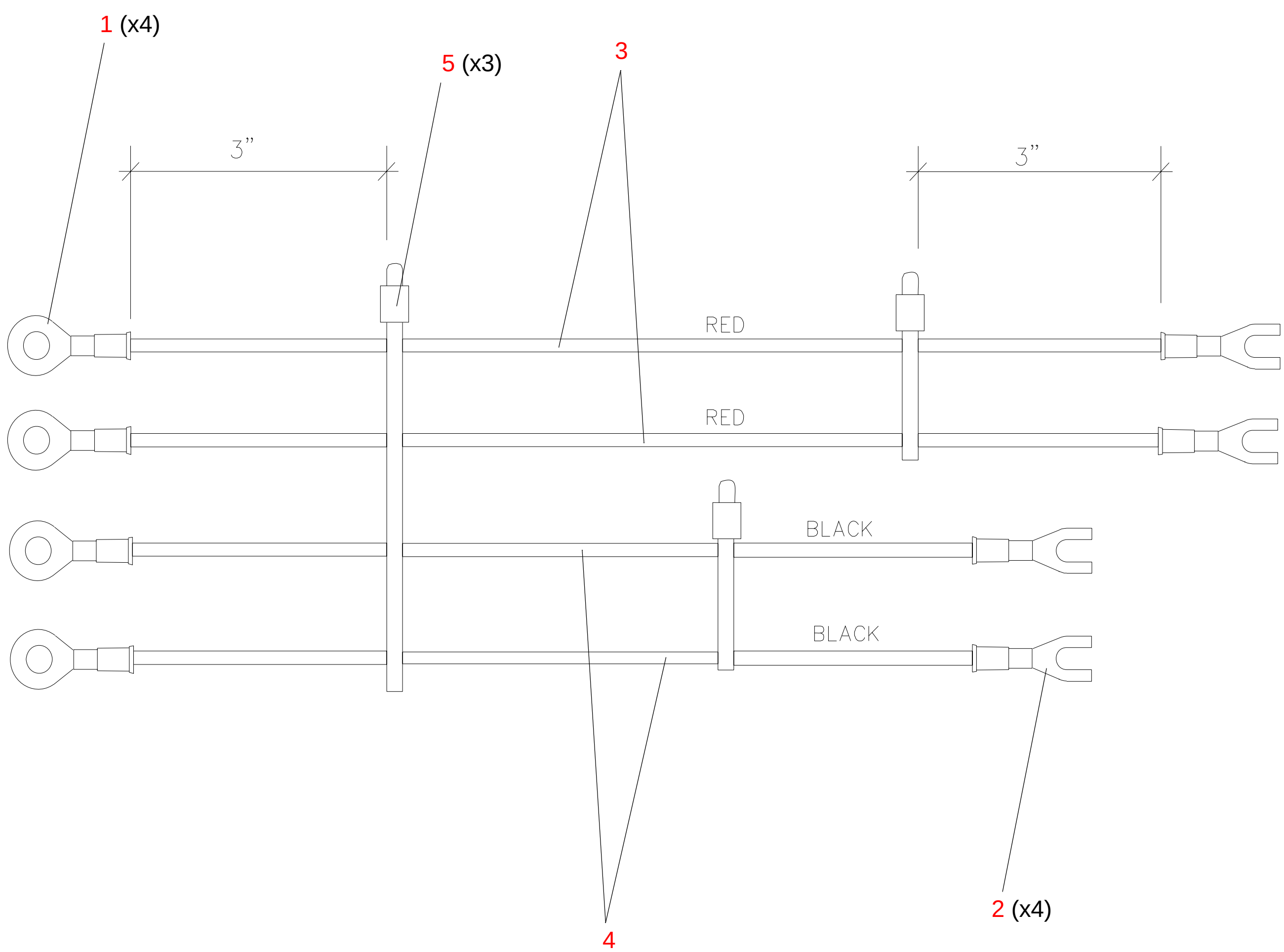


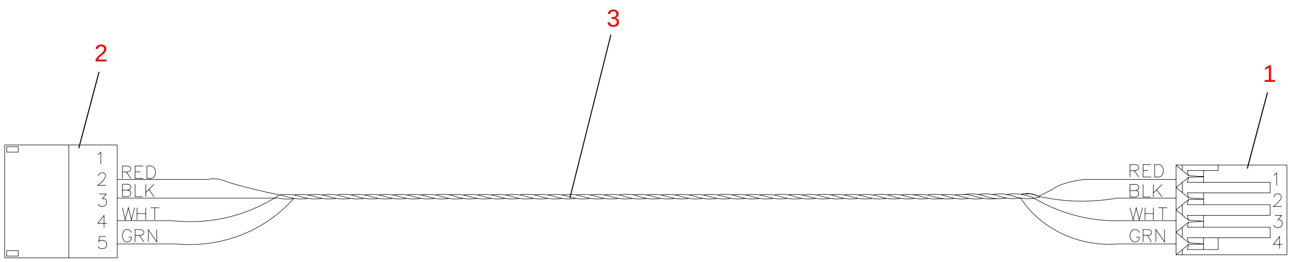
Figure 3-20: VLX Wash 12V Output 2 Cable Assembly

VLX Wash Data I/O Link Cable Assembly

25.9690.1550 Rev A

Refer to Figure 3-21

No.	Item	Qty.	UM.	Description
1	52.6396.2904	1	EA	RECEPT, 4POS MTA 100, W/ POL TABS, CLSD END
2	52.6396.2905	1	EA	RECEPT, 5POS MTA 100, W/ POL TABS, CLSD END
3	73.5122.0259	38	IN	CABLE, 22 AWG STRND, 4 COND, PVC INSUL TWISTED



WIRE CHART				
FROM	CONN ITEM NO.	TO	CONN ITEM NO.	COLOR
PIN 2	2	PIN 1	1	RED
PIN 3	2	PIN 2	1	BLK
PIN 4	2	PIN 3	1	WHT
PIN 5	2	PIN 4	1	GRN

Figure 3-21: VLX Wash Data I/O Link Cable Assembly

VLX Wash Display Link (MCB to Display) Cable Assembly

25.9690.1553 Rev A

Refer to Figure 3-22

No.	Item	Qty.	UM.	Description
1	-	1	EA	CONN, FEMALE 8 POS, 30-24 AWG, PHR (JST)
2	-	6	EA	CONTACT, SOCKET, 30-24 AWG CRIMP (REEL) PH (JST)
3	-	45.50	IN	CABLE, 24 AWG STRND, 2 COND, PVC INSUL, BLU/YEL TWISTED
4	-	45.50	IN	CABLE, 24 AWG STRND, 2 COND, PVC INSUL, WHT/ORN TWISTED
5	-	1	EA	CONN, HSG MOD IV, 0.100 X 0.100 CL, 8 POS
6	-	6	EA	CONTACT, FEMALE, MOD IV, CRIMP SNAP-IN
7	-	45.50	IN	CABLE, 24 AWG STRND, PVC INSUL, RED
8	-	45.50	IN	CABLE, 24 AWG STRND, PVC INSUL, BLACK
9	55.2186.0001	4	EA	CABLE TIE, 0.10" WD X 4.00" LG, SMALL

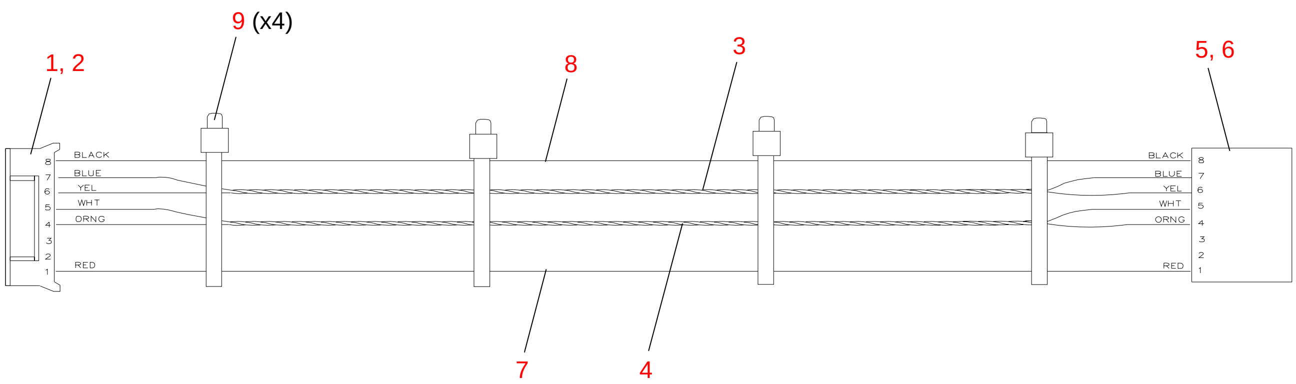


Figure 3-22: VLX Wash Display Link (MCB to Display) Cable Assembly

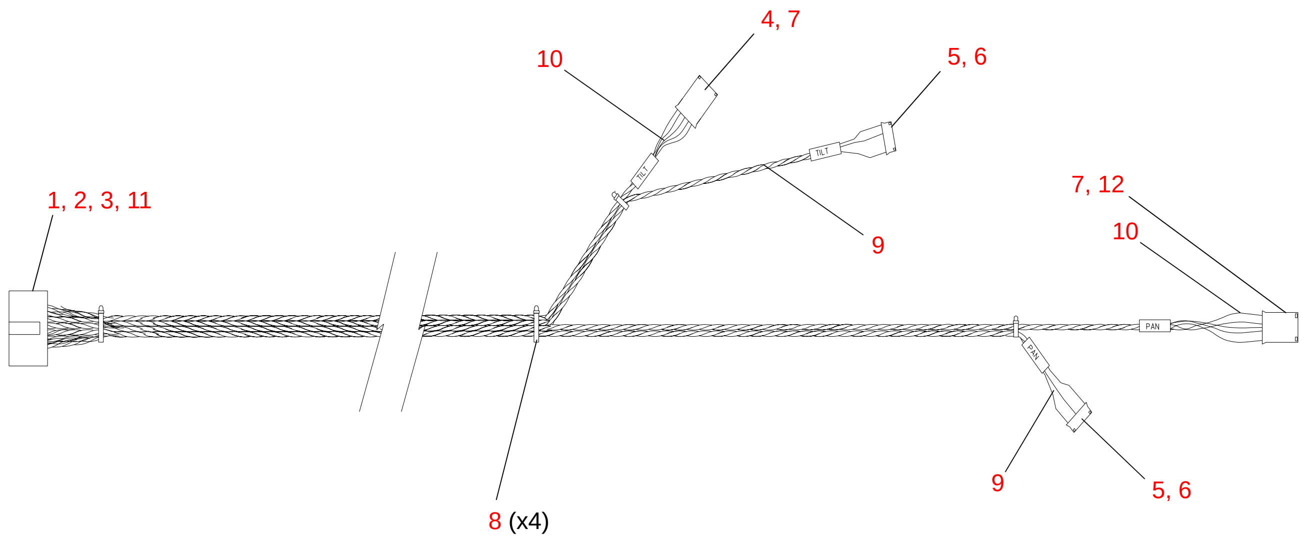
VLX Wash Pan/Tilt Cable Assembly

25.9690.1556 Rev D

Refer to Figure 3-23

No.	Item	Qty.	UM.	Description
1	52.6610.0008	1	EA	CONN, HOUSING 20 POS DBL ROW UNLOADED
2	52.6224.1020	1	EA	COVER, FRONT, 20 POS MT LATCHING
3	52.6224.2020	1	EA	COVER, BACK, 20 POS MT
4	52.6524.0005	1	EA	CONN, HOUSING, 5 POS RECEPTACLE
5	52.6588.0007	2	EA	CONN, HOUSING, 7 POS 250V/3A 2.5 MM PITCH
6	52.7007.0001	6	EA	CONTACT, 28-22 AWG PHOSPHOR BRONZE TIN-PLT
7	52.8346.0001	10	EA	CONTACT, 24-30 AWG FEMALE CRIMP
8	55.2186.0001	4	EA	CABLE TIE, 0.10" WD X 4.00" LG, SMALL
9	73.5119.0246	6.375	FT	WIRE, 24 AWG 3 COND TW 600V 200 DEG C (RED-YEL-BLU)
10	73.5124.1289	6.50	FT	WIRE, 24 AWG 5 COND TW 300V 80 DEG C (BLK-BRN-RED-GRY-WHT)
11	52.8351.0004	16	EA	CONTACT, 26-22 AWG RECEPT MTE (REEL)
12	52.6524.0004	1	EA	CONN, HOUSING 4 POS RECEPTACLE

VLX Wash Pan/Tilt Cable Assembly (continued)



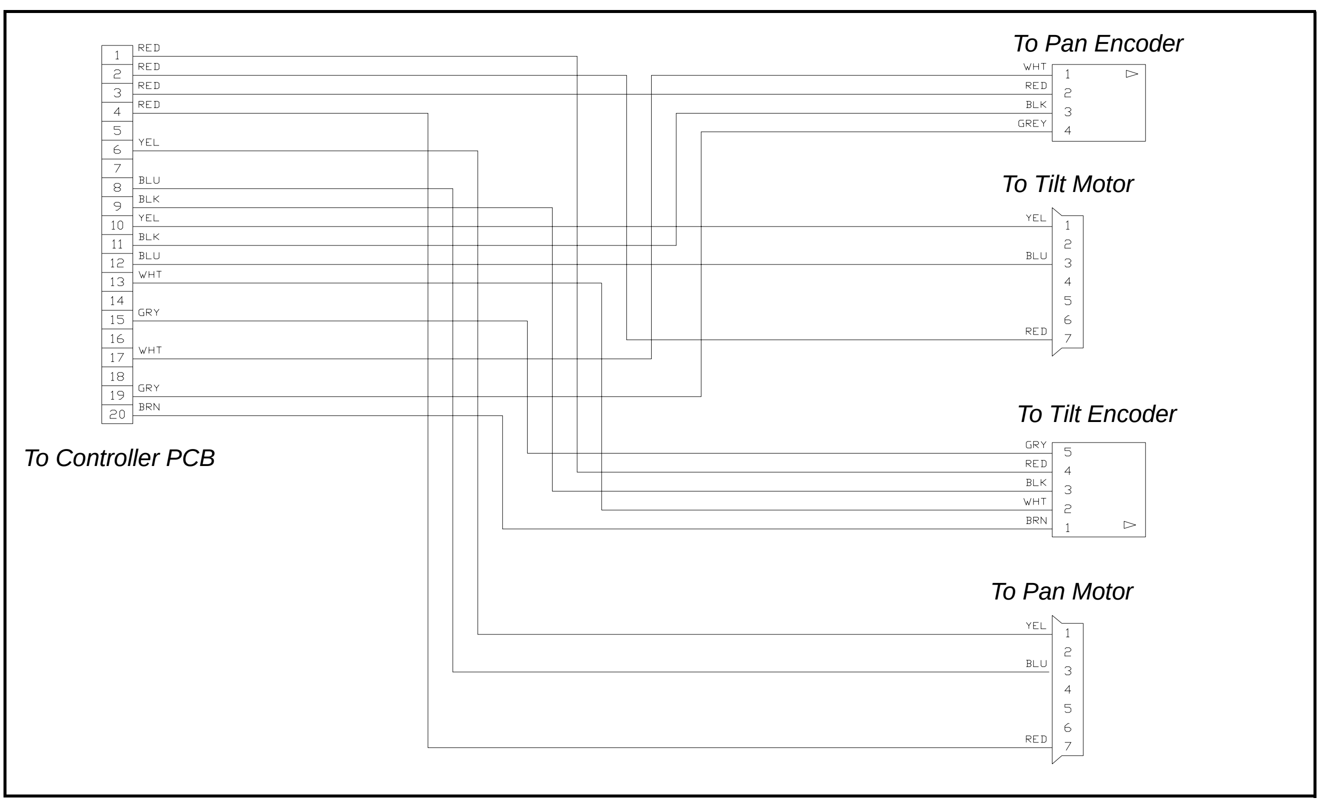


Figure 3-23: VLX Wash Pan/Tilt Cable Assembly

VLX Wash Display Link (Ballast to Display) Cable Assembly

25.9690.0572 Rev A

Refer to Figure 3-24

No.	Item	Qty.	UM.	Description
1	-	1	EA	CONN, HOUSING JST, PHD SERIES, 10 CIRCUIT
2	-	8	EA	CONTACT, SOCKET 30-24 AWG CRIMP, (REEL) PH (JST)
3	-	2	EA	CONN, HOUSING JST, PHD SERIES, 10 CIRCUIT, DOUBLE ROW
4	-	8	EA	CONTACT, SOCKET 28-24 AWG CRIMP, PHD (JST)
5	-	26	IN	WIRE, 4 COND 300V 200 DEG C TEF (BLK-BRN-RED-ORN)

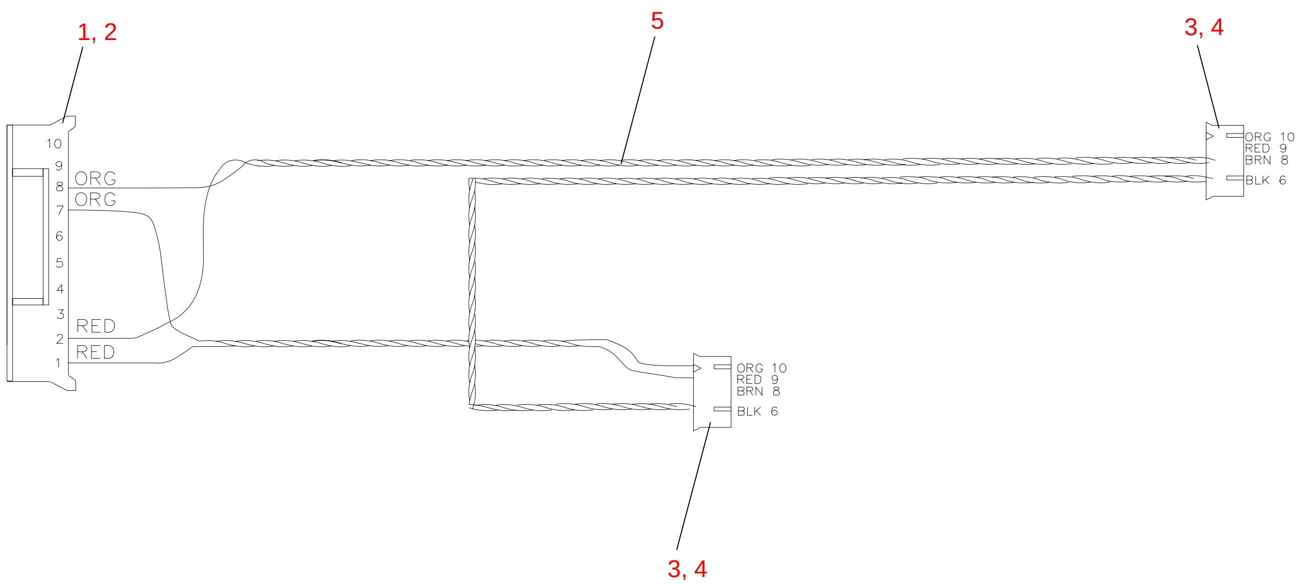


Figure 3-24: VLX Wash Display Link (Ballast to Display) Cable Assembly

Negative Wire - Driver Board 1 Cable Assembly

25.9690.1501 Rev B

Refer to Figure 3-25

No.	Item	Qty.	UM.	Description
1	-	1	EA	RING TERMINAL, 14-16 AWG, #8 HOLE SIZE
2	-	1	EA	LOCKING FORK, 16-14 AWG, #6 STUD
3	-	117	IN	WIRE, TWISTED PAIR, 18 AWG, FEP 168-7-40 EACH WIRE - BLUE

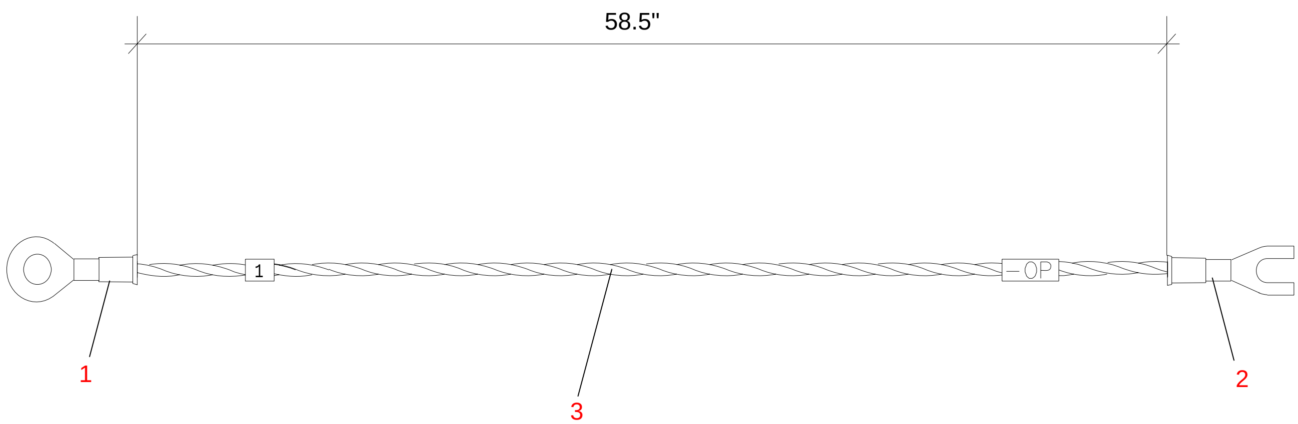


Figure 3-25: Negative Wire - Driver Board 1 Cable Assembly

Negative Wire - Driver Board 2 Cable Assembly

25.9690.1502 Rev B

Refer to Figure 3-26

No.	Item	Qty.	UM.	Description
1	-	1	EA	RING TERMINAL, 14-16 AWG, #8 HOLE SIZE
2	-	1	EA	LOCKING FORK, 16-14 AWG, #6 STUD
3	-	106	IN	WIRE, TWISTED PAIR, 18 AWG, FEP 168-7-40 EACH WIRE - BLUE

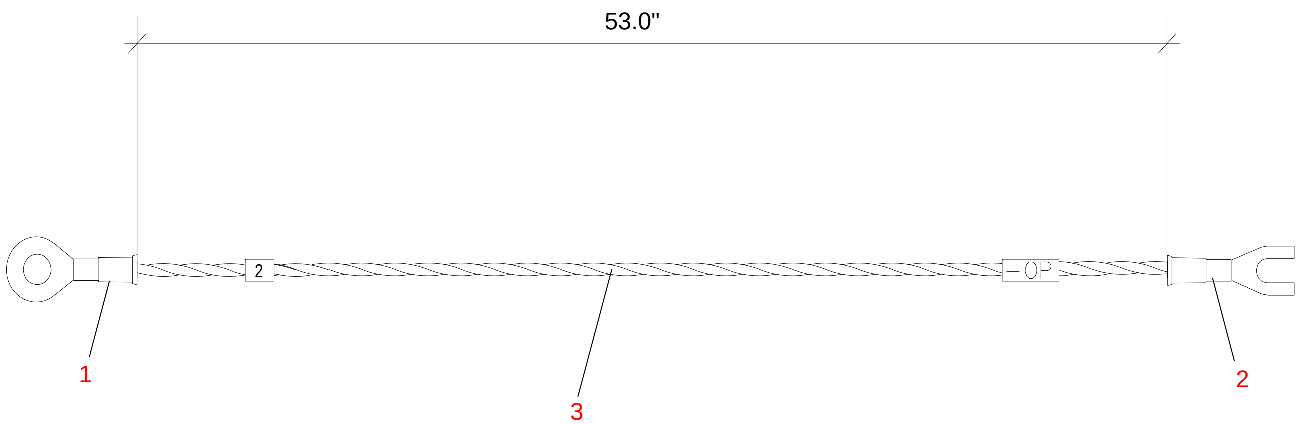


Figure 3-26: Negative Wire - Driver Board 2 Cable Assembly

Negative Wire - Driver Board 3 Cable Assembly

25.9690.1503 Rev C

Refer to Figure 3-27

No.	Item	Qty.	UM.	Description
1	-	1	EA	RING TERMINAL, 14-16 AWG, #8 HOLE SIZE
2	-	1	EA	LOCKING FORK, 16-14 AWG, #6 STUD
3	-	113	IN	WIRE, TWISTED PAIR, 18 AWG, FEP 168-7-40 EACH WIRE - BLUE

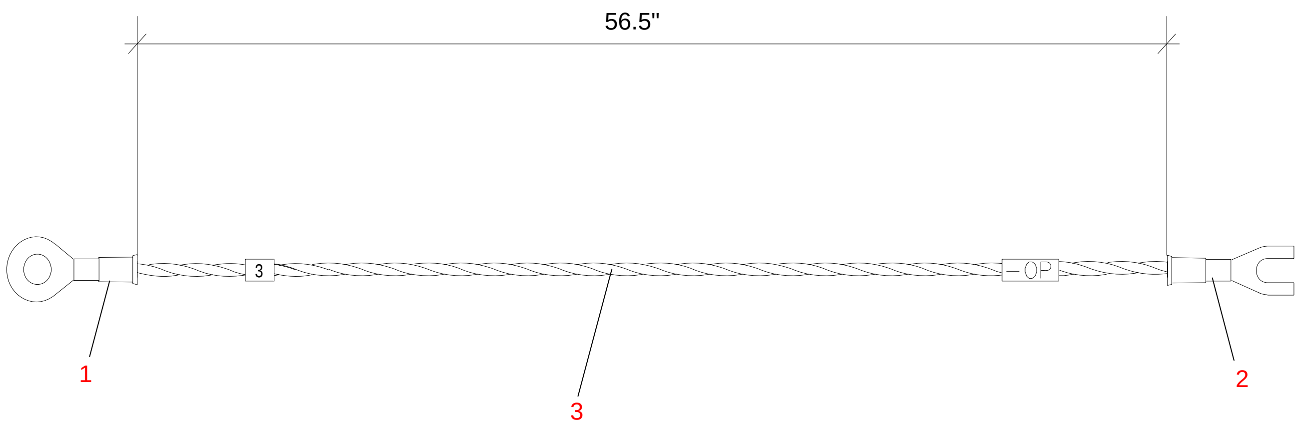


Figure 3-27: Negative Wire - Driver Board 3 Cable Assembly

Negative Wire - Driver Board 4 Cable Assembly

25.9690.1504 Rev B

Refer to Figure 3-28

No.	Item	Qty.	UM.	Description
1	-	1	EA	RING TERMINAL, 14-16 AWG, #8 HOLE SIZE
2	-	1	EA	LOCKING FORK, 16-14 AWG, #6 STUD
3	-	118	IN	WIRE, TWISTED PAIR, 18 AWG, FEP 168-7-40 EACH WIRE - BLUE

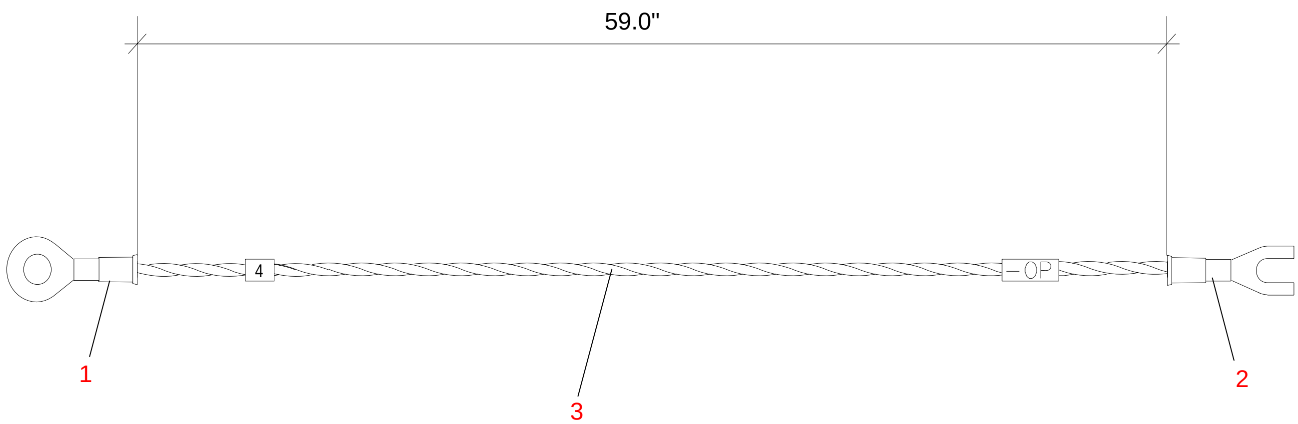


Figure 3-28: Negative Wire - Driver Board 4 Cable Assembly

Negative Wire - Driver Board 5 Cable Assembly

25.9690.1505 Rev B

Refer to Figure 3-29

No.	Item	Qty.	UM.	Description
1	-	1	EA	RING TERMINAL, 14-16 AWG, #8 HOLE SIZE
2	-	1	EA	LOCKING FORK, 16-14 AWG, #6 STUD
3	-	106	IN	WIRE, TWISTED PAIR, 18 AWG, FEP 168-7-40 EACH WIRE - BLUE

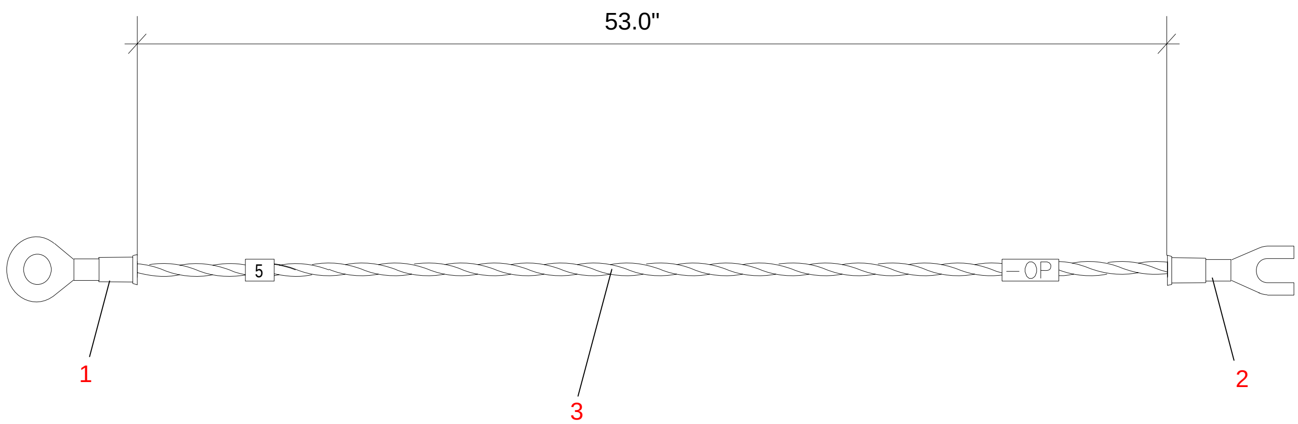


Figure 3-29: Negative Wire - Driver Board 5 Cable Assembly

Negative Wire - Driver Board 6 Cable Assembly

25.9690.1506 Rev C

Refer to Figure 3-30

No.	Item	Qty.	UM.	Description
1	-	1	EA	RING TERMINAL, 14-16 AWG, #8 HOLE SIZE
2	-	1	EA	LOCKING FORK, 16-14 AWG, #6 STUD
3	-	104	IN	WIRE, TWISTED PAIR, 18 AWG, FEP 168-7-40 EACH WIRE - BLUE

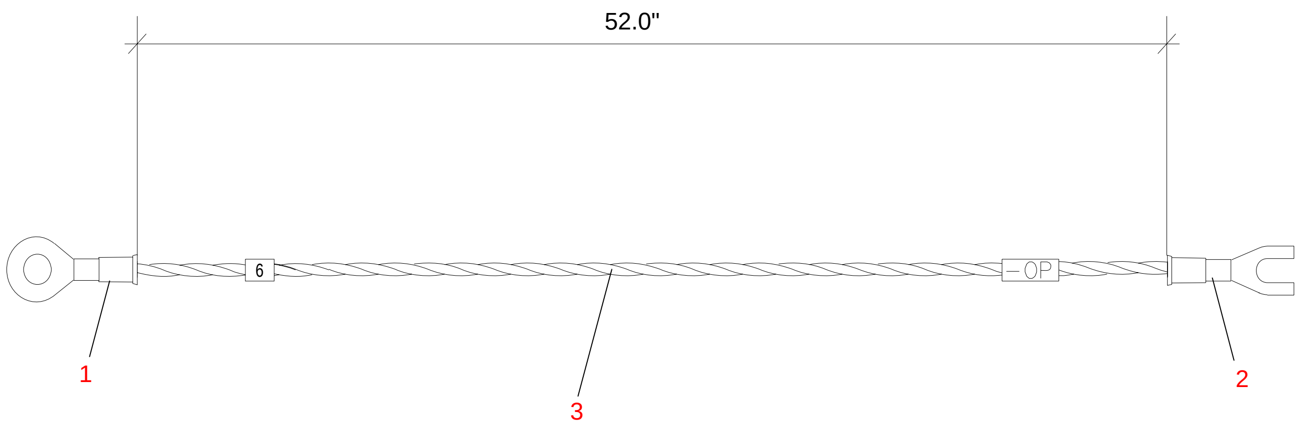


Figure 3-30: Negative Wire - Driver Board 6 Cable Assembly

Negative Wire - Driver Board 7 Cable Assembly

25.9690.1507 Rev C

Refer to Figure 3-31

No.	Item	Qty.	UM.	Description
1	-	1	EA	RING TERMINAL, 14-16 AWG, #8 HOLE SIZE
2	-	1	EA	LOCKING FORK, 16-14 AWG, #6 STUD
3	-	111	IN	WIRE, TWISTED PAIR, 18 AWG, FEP 168-7-40 EACH WIRE - BLUE

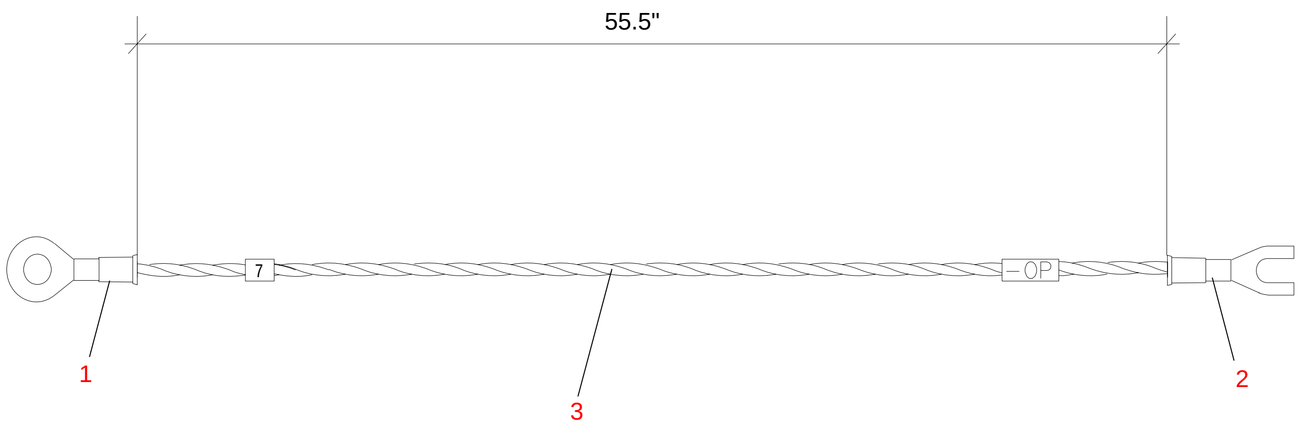


Figure 3-31: Negative Wire - Driver Board 7 Cable Assembly

Positive Wire - Driver Board Tilt Motor Side Cable Assembly

25.9690.1509 Rev B

Refer to Figure 3-32

No.	Item	Qty.	UM.	Description
1	-	1	EA	RING TERMINAL, 14-16 AWG, #8 HOLE SIZE
2	-	1	EA	LOCKING FORK, 16-14 AWG, #6 STUD
3	-	98	IN	WIRE, TWISTED PAIR, 18 AWG, FEP 168-7-40 EACH WIRE - GREEN

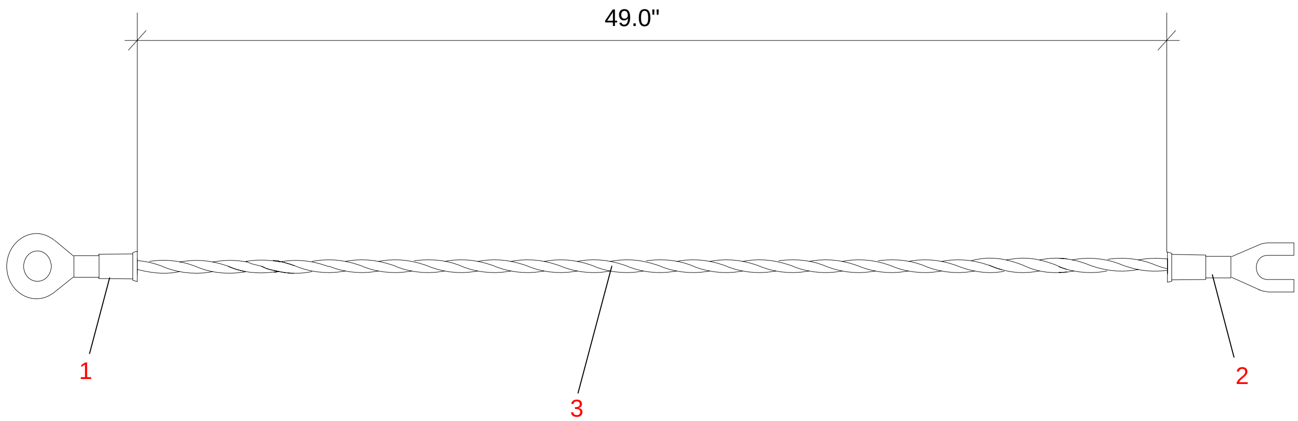


Figure 3-32: Positive Wire - Driver Board Tilt Motor Side Cable Assembly

Positive Wire - Driver Board MCB Side Cable Assembly

25.9690.1510 Rev B

Refer to Figure 3-33

No.	Item	Qty.	UM.	Description
1	-	1	EA	RING TERMINAL, 14-16 AWG, #8 HOLE SIZE
2	-	1	EA	LOCKING FORK, 16-14 AWG, #6 STUD
3	-	92	IN	WIRE, TWISTED PAIR, 18 AWG, FEP 168-7-40 EACH WIRE - GREEN

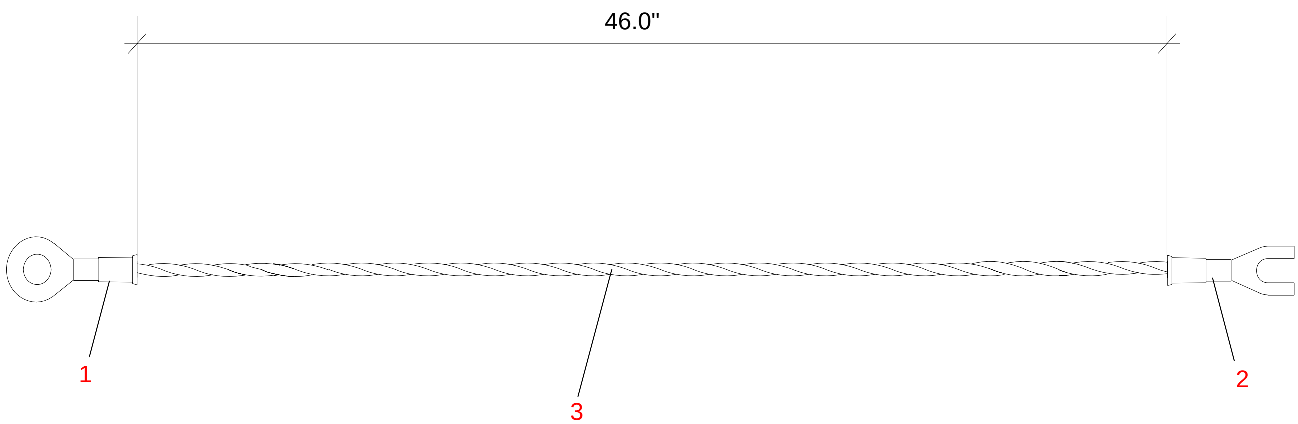


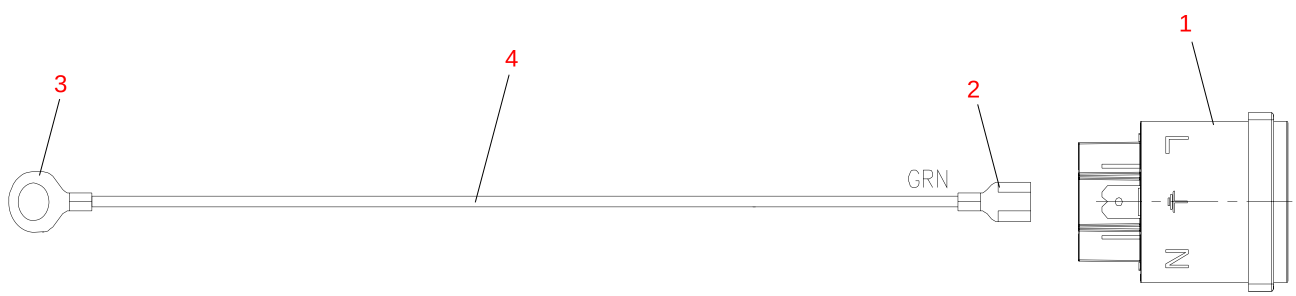
Figure 3-33: Positive Wire - Driver Board MCB Side Cable Assembly

VLX Wash A/C Input Cable Assembly

25.9690.2551 Rev A

Refer to Figure 3-34

No.	Item	Qty.	UM.	Description
1	52.6541.0003	1	EA	CONN, CHASSIS PWR, 3 POLE LOCKING
2	52.8331.0003	1	EA	FASTON RECPT., 16-14 AWG PIDG BLU 0.170" ID
3		1	EA	TERM, RING #8 16-14 AWG PIDG
4	73.6014.0005	7	IN	WIRE, 14 AWG 600V 105 DEG C PVC GRN UL1015



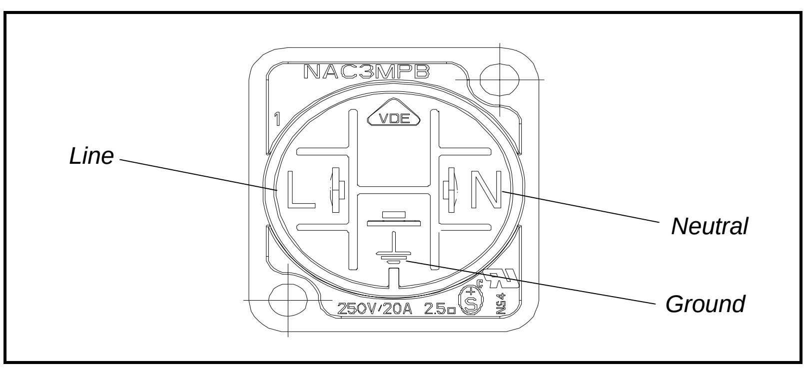


Figure 3-34: VLX Wash A/C Input Cable Assembly

VLX Wash A/C Supply Cable Assembly

25.9690.3552 Rev A

Refer to Figure 3-35

No.	Item	Qty.	UM.	Description
1	-	1	EA	LOCKING FORK, SCOTCHLOK, #8 STUD, 16-14 AWG
2	52.8313.0001	2	EA	RECPT, FASTON 1/4" 18-14 AWG FLAG DBL CRP
3	52.8231.0005	1	EA	TERM, RING #6 16-14 AWG REEL PIDG
4	73.6014.0010	36	IN	WIRE, 14 AWG 600V 105 DEG C PVC BLK UL1015
5	73.6014.0009	36	IN	WIRE, 14 AWG 600V 105 DEG C PVC WHT UL1015
6	73.6014.0005	26	IN	WIRE, 14 AWG 600V 105 DEG C PVC GRN UL1015
7	55.2186.0001	2	EA	CABLE TIE, 0.10" WD X 4.00" LG, SMALL
8	-	5	EA	LOCKING FORK, SCOTCHLOK, #8 STUD, 12-10 AWG
9	-	1	EA	RING TERMINAL, 14-16 AWG #8 HOLE SIZE
10	52.8331.0003	2	EA	RECEPT FASTON, 0.187", 16-14 AWG
11	67.4018.0001	1	EA	FERRITE, 26 X 28.5 X 13 MM CYL
12	52.6264.0004	1	EA	CONN HOUSING, 3 POS SL156 W/ RAMP, NO TABS
13	-	2	EA	CONTACT, SL156 24-18 AWG
14	-	43	IN	WIRE, 20 AWG 600V 200 DEG C FEP WHT STRAND 105/40
15	-	43	IN	WIRE, 20 AWG 600V 200 DEG C FEP BLK STRAND 105/40

VLX Wash A/C Supply Cable Assembly (continued)

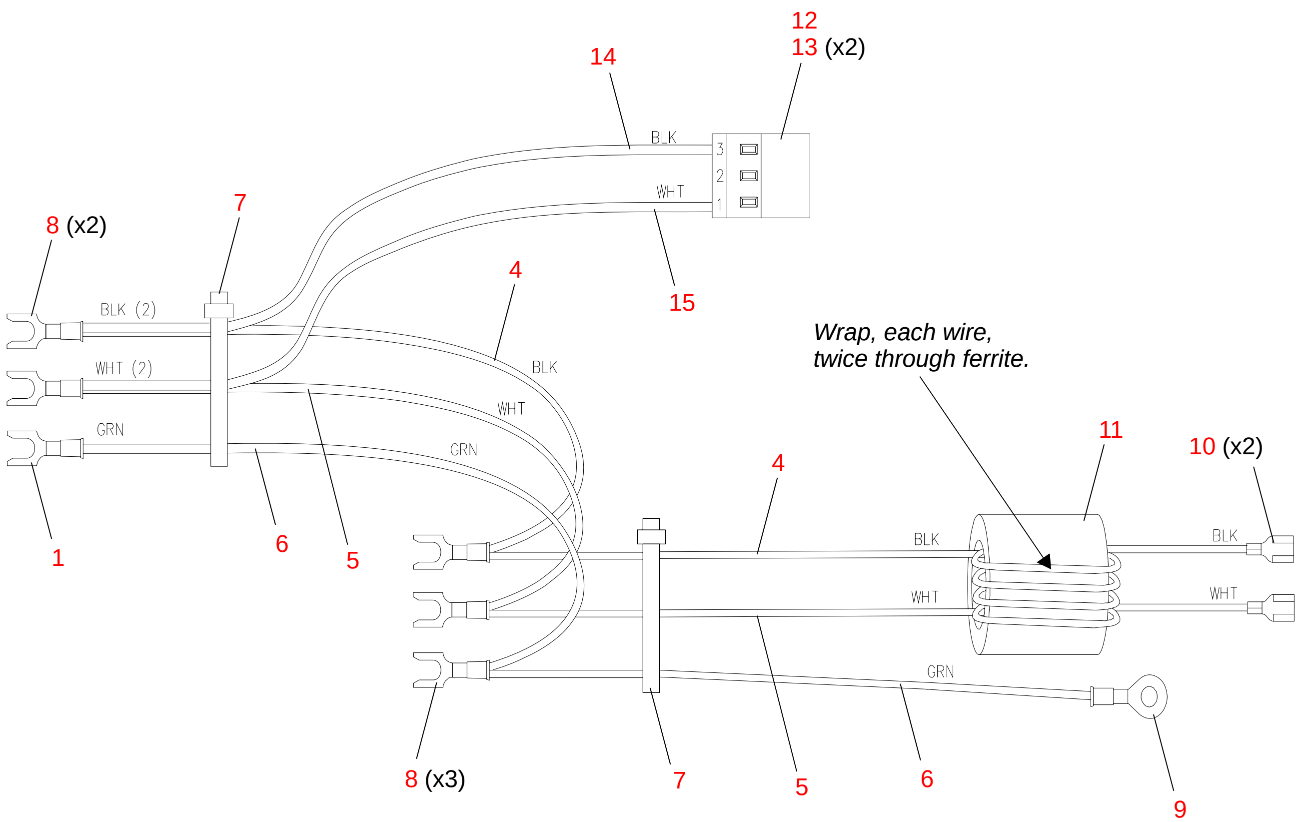


Figure 3-35: VLX Wash A/C Supply Cable Assembly

APPENDIX A.

Technical Bulletins and Notices

VLX Wash Technical Bulletins and Notices

The following table identifies the current technical bulletins and notices associated with the Series VLX™ Wash Luminaires. These improvements have been incorporated into this manual (where applicable) and are available on the Vari-Lite web site at www.vari-lite.com. Please note that not all bulletins or notices are applicable to all versions of the fixtures included in this manual. Refer to each bulletin and notice for specific information and application.

Technical Bulletins

Technical Bulletin	Description	Model(s)
LSW-048	VLX Wash Luminaire Initial Software Release (08/02/09)*	All VLX Wash
LSW-049	VLX Wash Luminaire Software Release (08/21/09)	All VLX Wash

* This bulletin or notice was superseded and removed from the Vari-Lite web site.

Technical Notices

Technical Notice	Description	Model(s)
None		

For the latest technical bulletins and notices, please visit the Support section on the Vari-Lite web site at www.vari-lite.com.

Notes

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